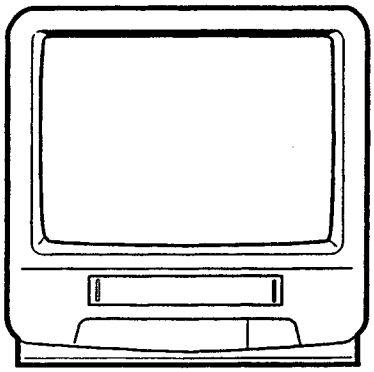
MEDION®

MD 3685VT

SERVICE MANUAL

COLOR TELEVISION/
VIDEO CASSETTE RECORDER



ORIGINAL
CHASSIS CODE A

VHS PAL

SPECIFICATIONS

(TV SECTION)	
PICTURE SIZE:	14 inch
SYSTEM:	PAL B/G
FREQUENCY RANGE	
VHF (L):	E2 - S7 ch
VHF (H):	S8 - S41 ch
UHF:	21 - 69 ch
INTERMEDIATE FREQUENCY	
Picture IF Carrier Frequency:	38.9 MHz
Color Sub Carrier Frequency:	34.47 MHz
Sound IF Carrier Frequency:	33.4 MHz
SOUND INTERMEDIATE FREQUENCY:	5.5 MHz
SPEAKER:	8 ohm
MAXIMUM OUTPUT POWER:	1.5 W
POWER SOURCE:	AC 230V
POWER CONSUMPTION:	57 Watts

(VCR SECTION)	
OPERATING TEMPERATURE:	5°C to 40°C
VIDEO RECORDING SYSTEM:	VHS, 2 rotary heads helical scanning system
	Luminance : FM azimuth recording
	Color signal : converted sub-carrier
HEADS:	Video : 2 rotary heads
	Erase : 1 full track erase
	Audio/Control : 1 stationary head
AUDIO TRACK:	1 track
TAPE WIDTH:	12.65 mm high density tape
TAPE SPEED:	PAL or SECAM : SP 23.39 mm/sec
	NTSC or PAL-M : SP 33.35 mm/sec
INPUT LEVEL:	Video : 1.0Vp-p, 75 ohm unbalanced
	Audio : 500mV, 50K ohm unbalanced
OUTPUT LEVEL:	Video : 1.0Vp-p, 75 ohm unbalanced
	Audio : 500mV, 1K ohm unbalanced
WEIGHT:	12.8 Kg
DIMENSIONS:	365(W) X 368(D) X 38(H) mm

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage
peripheral circuit, etc.
Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.
Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Earphone jack

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the CHASSIS CODE.)

1. MODEL NUMBER and CHASSIS CODE
   You can find it in the back of your unit.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

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DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: BACK CABINET (Refer to Fig. 1-1)

1. Remove the 4 screws ①.
2. Remove the 2 screws ②.
3. Disconnect the following connector: (CP301 2 pins).
4. Remove the Back Cabinet in the direction of arrow.

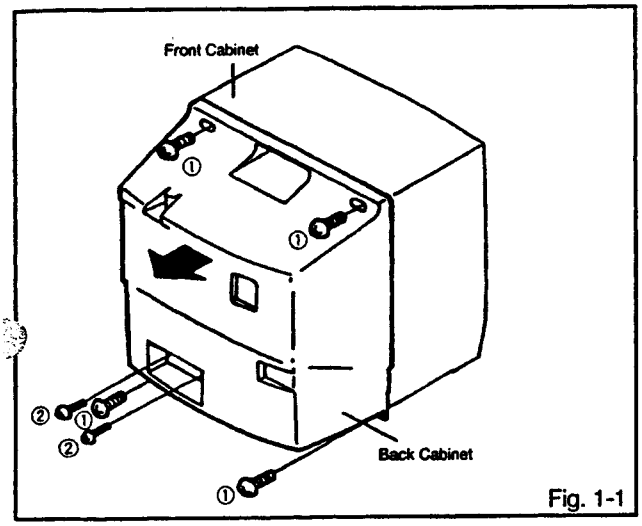


Fig. 1-1

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1-2: TV BLOCK (Refer to Fig. 1-2)

1. Remove the CRT PCB in the direction of arrow (A), then unplug the following connector: (CP801 2 pins and CP850 5 pins).
2. Remove the Anode Cap. (Refer to REMOVAL OF ANODE CAP)
3. Disconnect the following connectors: (CP820 15 pins, CP810 8 pins, CP401 4 pins, CP502 2 pins and CP005 1 pins).
4. Slide out the TV Block in the direction of arrow (B).

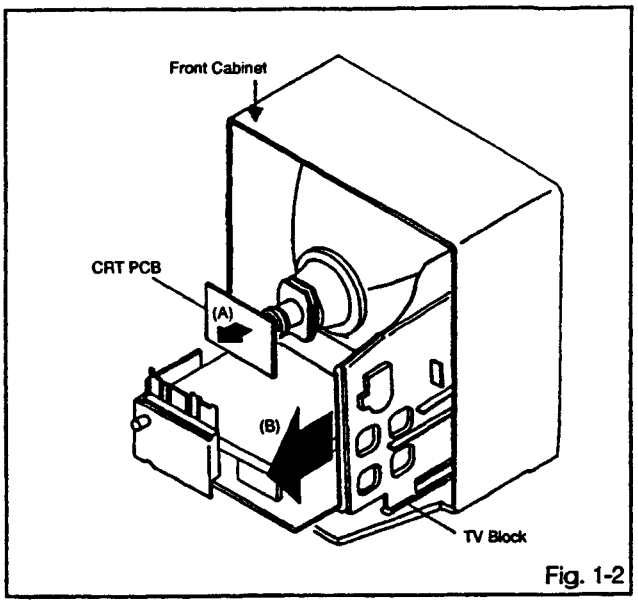


Fig. 1-2

1-3: VCR BLOCK (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Unlock the support ②.
3. Remove the VCR Block in the direction of arrow.

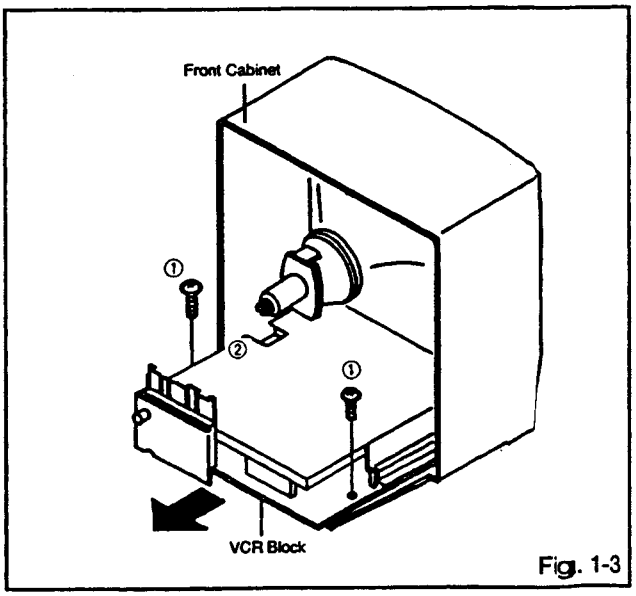


Fig. 1-3

DISASSEMBLY INSTRUCTIONS

1-4: LOCATION OF PRINTED CIRCUIT BOARDS. (Refer to Fig. 1-4)

CAUTION: BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

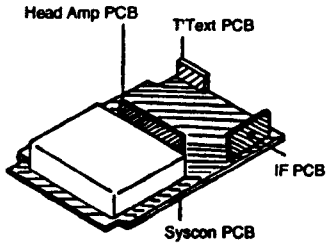


Fig. 1-4

1-5: MAIN PCB (Refer to Fig. 1-5)

1. Remove the 4 screws ①.
2. Remove the screw ②.
3. Unlock the 2 supports ③ and remove the Main PCB in the direction of the arrow.

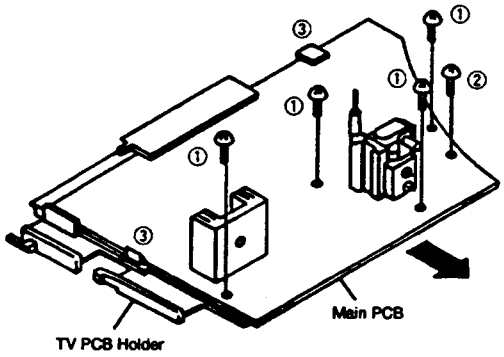


Fig. 1-5

1-6: TOP SHIELD PLATE AND BOTTOM SHIELD PLATE (Refer to Fig. 1-6)

1. Remove the 4 screws ①.
2. Remove the Top Shield Plate in the direction of arrow (A).
3. Remove the screw ②.
4. Remove the Bottom Shield Plate in the direction of arrow (B).

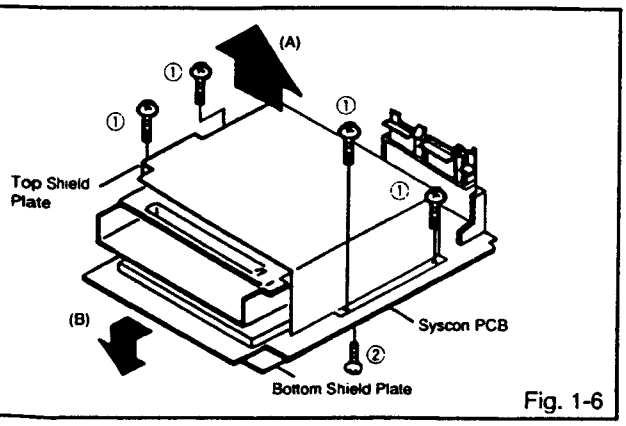


Fig. 1-6

1-7: FRONT LOADING UNIT 9, CHASSIS SECTION, JAC PLATE AND SYSCON PCB (Refer to Fig. 1-7-A)

1. Remove the screw ①.
2. Remove the screw ②.
3. Remove the screw ③.
4. Remove the Front Loading Unit 9 in the direction of arrow (A).
5. Remove the 3 screws ④.
6. Remove the 2 screws ⑤.
7. Remove the Chasis Section in the direction of arrow (B)
8. Remove the 2 screws ⑥.
9. Unlock the 2 supports ⑦ and remove the Jack Plate in the direction of arrow (C).
10. Remove the screw ⑧.
11. Unlock the support ⑨ and remove the Syscon PCB in the direction of arrow (B).

NOTE

When installing the Front Loading Unit 9, align the timing marks and pull the Cassette Holder Ass'y in the direction of arrow (B). **(Refer to Fig. 1-7-B)**

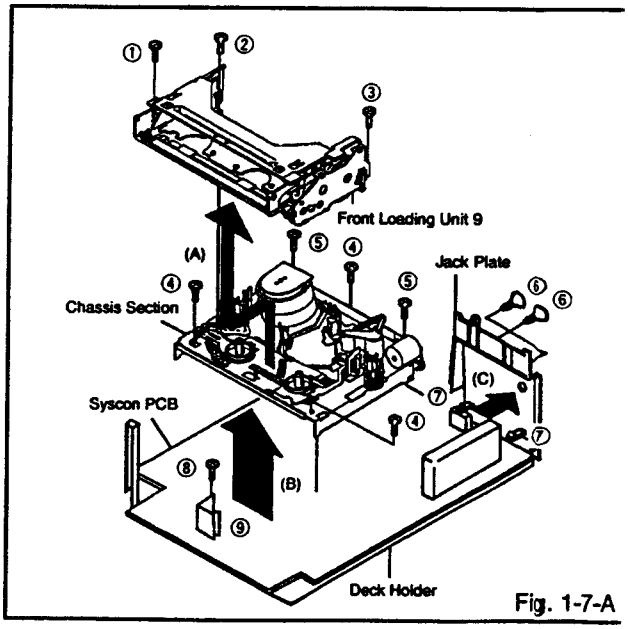


Fig. 1-7-A

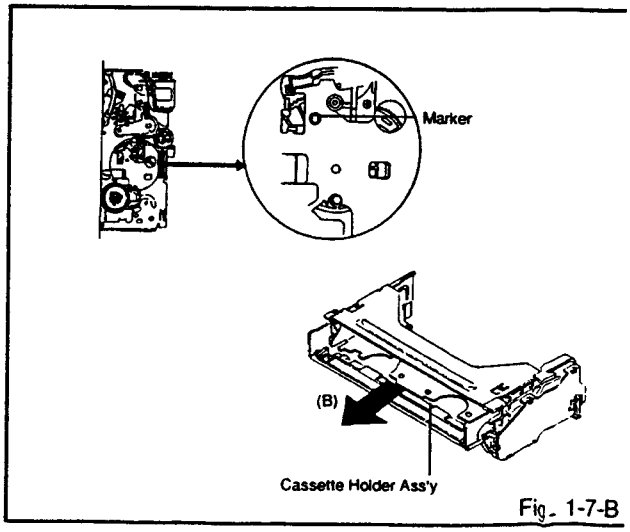


Fig. 1-7-B

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF DECK PARTS

2-1: LINK GEAR (R) / CAM GEAR (Refer to Fig. 2-1)

1. Unlock the support ①.
2. Remove the BOT Sensor Cover and BOT Reflector.
3. Unlock the 3 supports ②.
4. Remove the Side Bracket R2 and Spring Earth.
5. Remove the Flap Lever, Link Gear (R) , Cam Gear Ass'y and BOT Lever.

NOTE

When installing the Link Ass'y 2 and Link Gear (R), align the timing Marks.

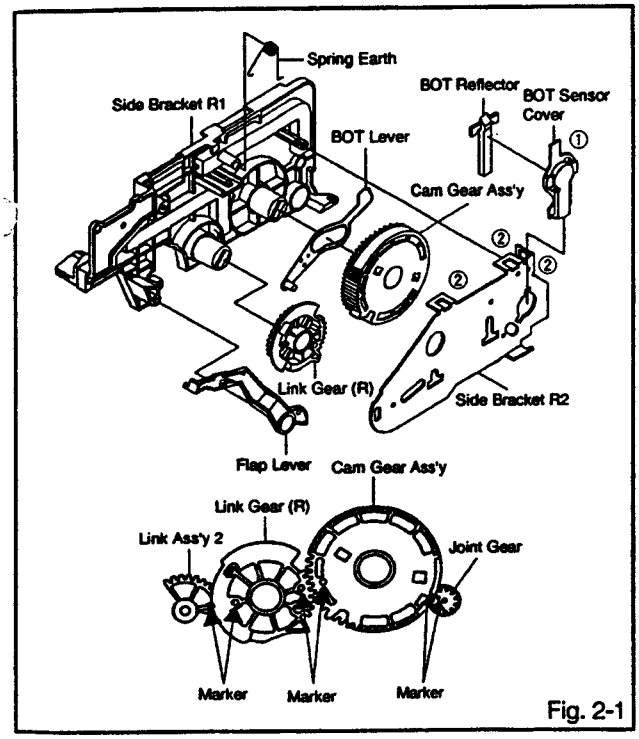


Fig. 2-1

2-2: TOP BRACKET / TAPE PIECE GUIDE (Refer to Fig. 2-2)

1. Unlock the 2 supports ①.
2. Remove the Tape Piece Guide.
3. Unlock the 4 supports ②.
4. Remove the Top Bracket.
5. Remove the Side Bracket R1 and Side Bracket L.
6. Unlock the support ③.
7. Remove the Joint Gear.
8. Remove the Bracket R Spring.

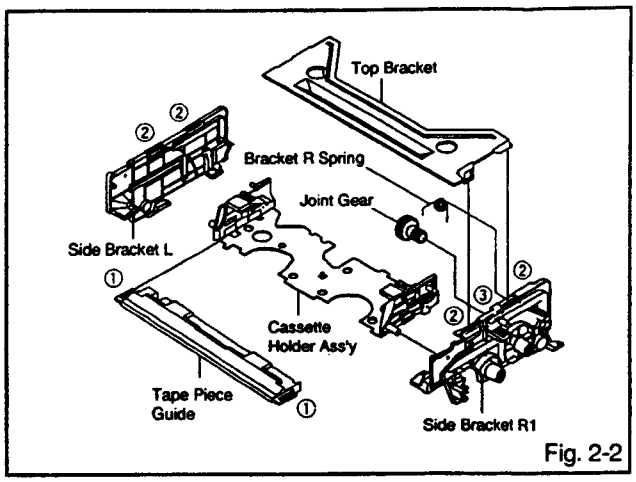


Fig. 2-2

2-3: LINK ASS'Y 2 (Refer to Fig. 2-3)

1. After removing in the direction (A) of Link Ass'y 2, remove the Link Ass'y 2 in the direction (B).

NOTE

Install the (B) first, then install the (A).

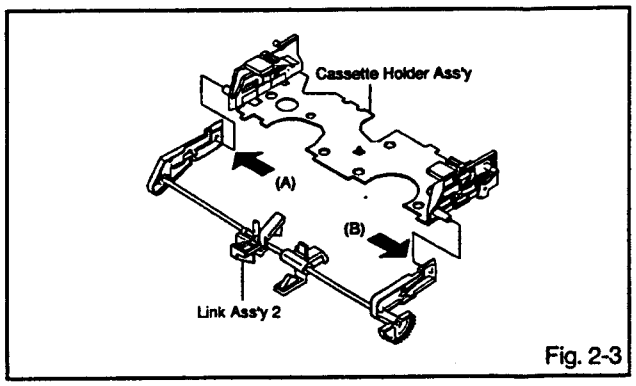


Fig. 2-3

2-4: CASSETTE SIDE R (Refer to Fig. 2-4)

1. Unlock the 2 supports ①.
2. Remove the Cassette Side R.
3. Remove the Pack Spring.
4. Remove the Locker Spring.
5. Unlock support ②.
6. Remove the Locker R.

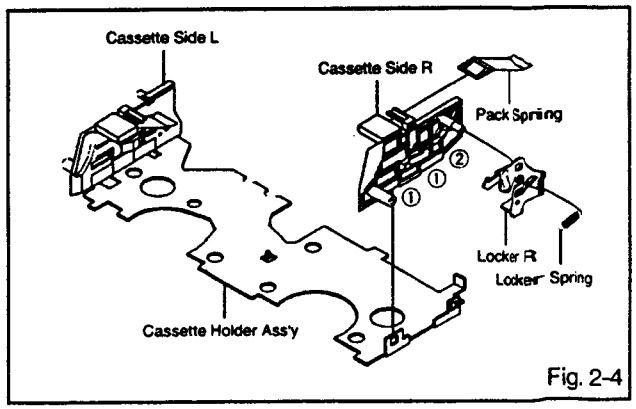


Fig. 2-4

DISASSEMBLY INSTRUCTIONS

2-5: CASSETTE SIDE L (Refer to Fig. 2-5)

1. Unlock the 2 supports ①.
2. Remove the Cassette Side L.
3. Remove the Pack Spring.
4. Remove the Locker Spring.
5. Unlock the support ②.
6. Remove the Locker L.

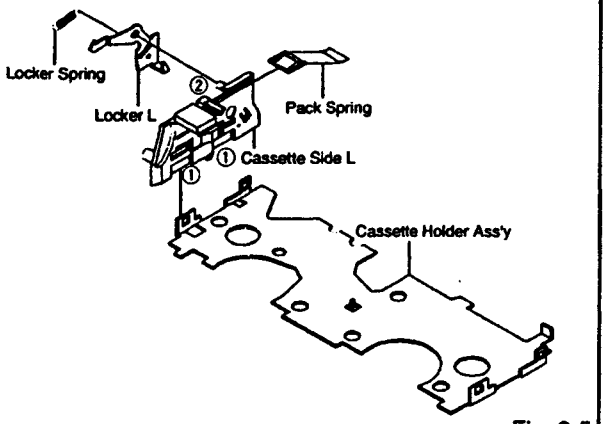


Fig. 2-5

2-6: BRAKE BRACKET (Refer to Fig. 2-6)

1. Remove the Main Brake Spring, S-S Brake Spring, Joint Arm Spring and T-S Brake Spring.
2. Remove the 2 screws ①.
3. Remove the screw ②.
4. Remove the Brake Bracket.
5. Remove the Sub Brake S, Sub Brake T, Main Brake S Ass'y and Main Brake T Ass'y.
6. Remove the Joint Arm.
7. Remove the Reflector LED 2.

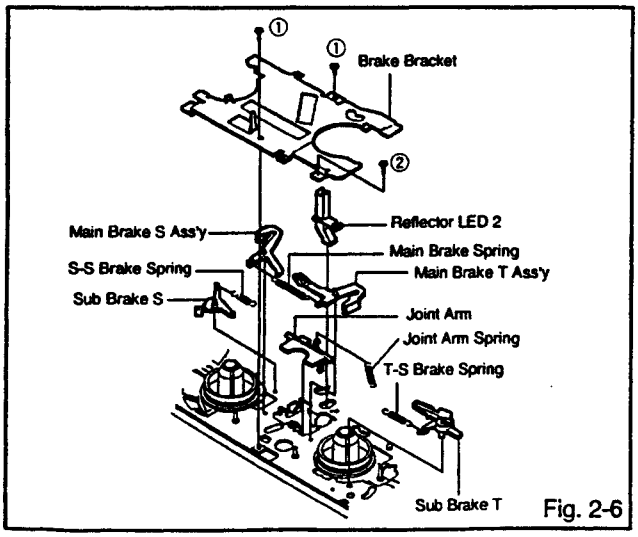


Fig. 2-6

2-7: TENSION BAND (Refer to Fig. 2-7)

1. Remove the Tension Arm Spring 1.
2. Remove the Tension Arm Spring 2.
3. Remove the Tension Adjust.
4. Remove the Tension Arm Ass'y.
5. Remove the Tension Band Ass'y.
6. Remove the Tension Lever 2 Ass'y.

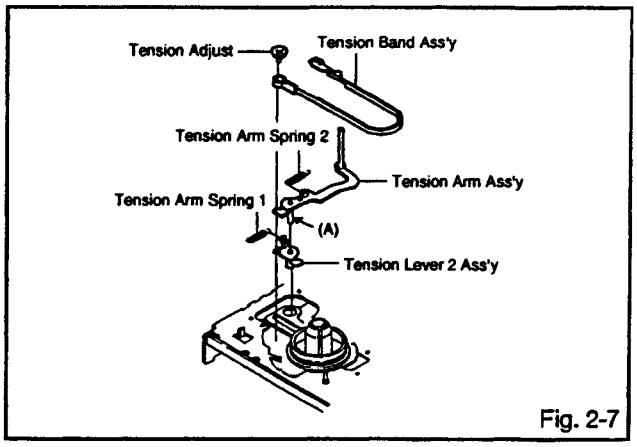


Fig. 2-7

NOTE

1. Install the Tension Band Ass'y without twisting it.
2. Oil (Lubricating Grade #150) the area marked with A in **Fig. 2-7.**

EX: KYOUDO Oil Sulaidasu #150
IDEMITSU Oil Super Multi #150

2-8: REEL DISK (Refer to Fig. 2-8)

1. Remove the Reel Disk S and Reel Disk T.
2. Remove the 2 polyslider washers.

NOTES

1. Installation of Reel Disk after performing step 1, 2 and 3 in section 2-7 of DISASSEMBLY INSTRUCTIONS.
2. The Height Adjustment washers are sometimes attached to the back of the Reel Disk.
3. Clean the Reel Disk Shaft and put in height adjusting washers.
4. Be careful not to damage the Tension Band Ass'y at the time of removal and installation.
5. Be careful not to scratch the Reel Disk Shaft with the polyslider washer or the tool at the time of removal and installation.
6. After oiling (Lubricating Grade #150) the Reel Disk Shaft, install the new Reel Disk S and Reel Disk T again.

EX: KYOUDO Oil Sulaidasu #150
IDEMITSU Oil Super Multi #150

7. After installation, adjust the height of the Reel Disk. **(Refer to item 1-1 of MECHANICAL ADJUSTMENTS)**
8. After installation, adjust and confirm the tension post positic **(Refer to item 1-2 of MECHANICAL ADJUSTMENTS)**

DISASSEMBLY INSTRUCTIONS

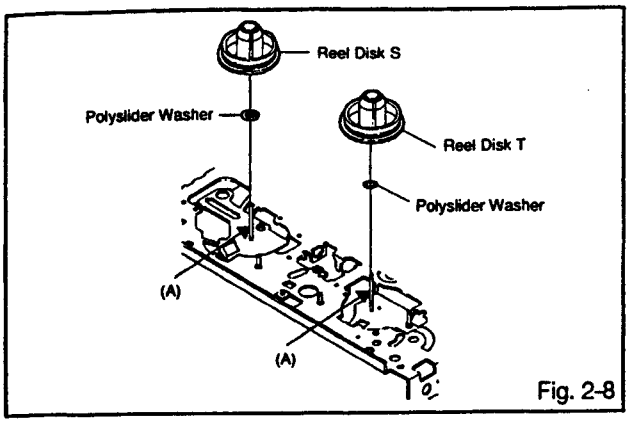


Fig. 2-8

2-9: PINCH ROLLER / CASSETTE OPENER (Refer to Fig. 2-9)

1. Unlock the support ①.
2. Remove the Pinch Roller.
3. Remove the screw ②.
4. Unlock the 2 supports ③.
5. Remove the Cassette Opener.
6. Remove the Spring P5 and Arm P5 Ass'y.
7. Remove the Cam Gear and Cam Pinch Roller.
8. Remove the polyslider washer and Cam P5.

NOTES

1. Do not touch the Pinch Roller. (Use gloves.)
2. When installing the Cam P5, Cam Pinch Roller and Cam Gear, align the timing marks.

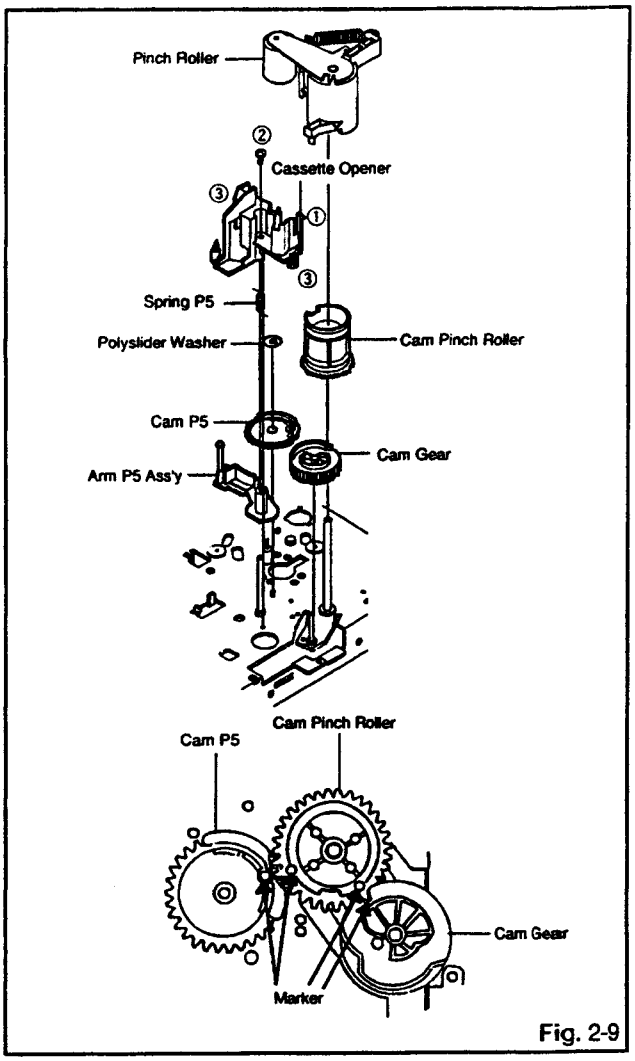


Fig. 2-9

2-10: AUDIO CONTROL HEAD (Refer to Fig. 2-10)

1. Disconnect the following connector: (CP4106 6 pins) on the Head Amp PCB.
2. Remove the 3 screws ①.
3. Remove the 3 Audio Control Head Springs.
4. Remove the Audio Control Head.

NOTES

1. Do not touch the head by any means when replacing the Audio Control Head. (Use gloves.)
2. After replacement, confirm the following adjustments.
   a. MECHANICAL ADJUSTMENTS: ITEM 2-2
   b. MECHANICAL ADJUSTMENTS: ITEM 2-3

DISASSEMBLY INSTRUCTIONS

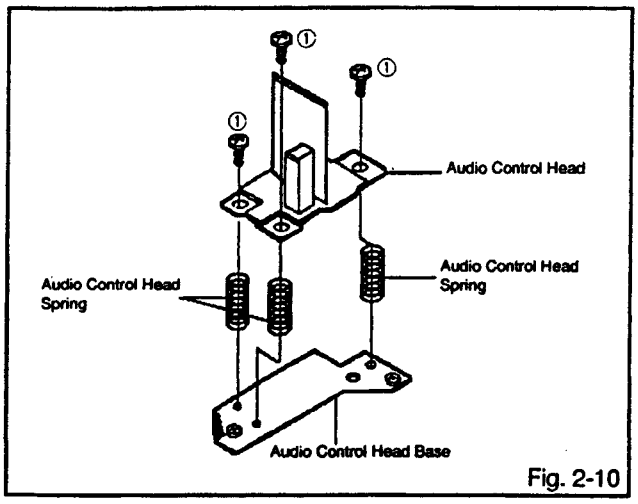


Fig. 2-10

2-11: CYLINDER UNIT (Refer to Fig. 2-11)

1. Disconnect the following connectors: (CP4101 4 pins and CP4102 5 pins) on the Head Amp PCB.
2. Remove the Joint Screw, then remove the Azimuth Spring.
3. Remove the 2 screws ①, then remove the Polyslider Washer and Cylinder Unit from the Main Chassis.

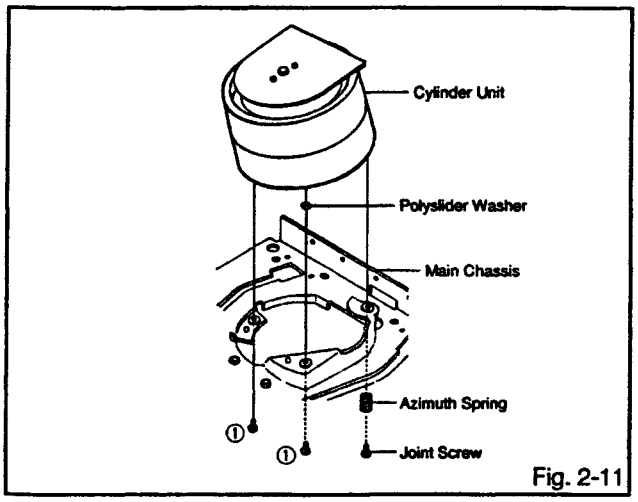


Fig. 2-11

2-12: PLATE BOTTOM (Refer to Fig. 2-12)

1. Remove the Capstan Belt.
2. Remove the 2 screws ①.
3. Remove the 3 screws ②.
4. Remove the Mode Switch.
5. Remove the Tension Lever Spring.
6. Remove the Plate Bottom.

NOTE

When installing the Mode Switch, align the timing position.

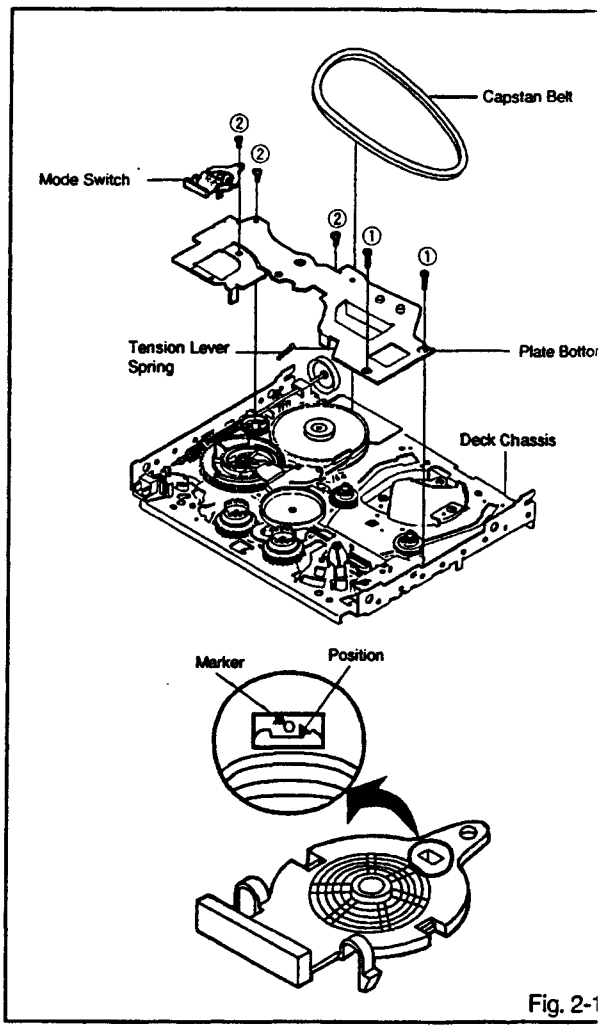


Fig. 2-1

2-13: CENTER PULLEY (Refer to Fig. 2-13)

1. Remove the polyslider washer ①.
2. Remove the Center Pulley.
3. Remove the polyslider washer ②.
4. Remove the Center Pulley Spring.
5. Remove the Idler Arm Ass'y.
6. Remove the 2 polyslider washers ③.
7. Remove the Clutch Gear T Ass'y and Clutch Gear S As

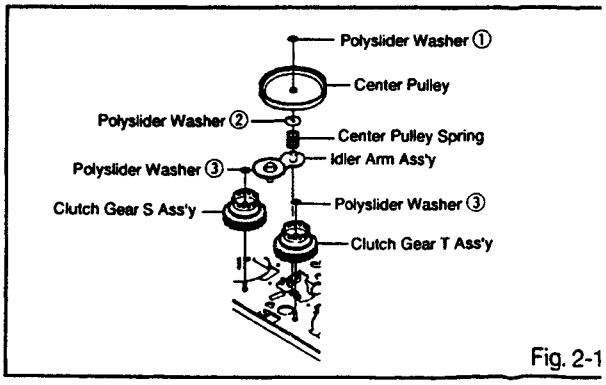


Fig. 2-1

DISASSEMBLY INSTRUCTIONS

2-14: MAIN CAM (Refer to Fig. 2-14)

1. Remove the Loading Lever.
2. Remove the Main Brake Lever.
3. Remove the Capstan Brake Spring.
4. Remove the Capstan Brake Ass'y.
5. Remove the Main Rod Spring.
6. Remove the Tension Holder.
7. Remove the Tension Lever.
8. Remove the Main Cam.
9. Remove the Middle Gear.
10. Remove the Main Rod Ass'y.

NOTES

1. When installing the Main Rod Ass'y, install side (B) first, then install side (A).
2. When installing the Loading Lever, align the timing marks.

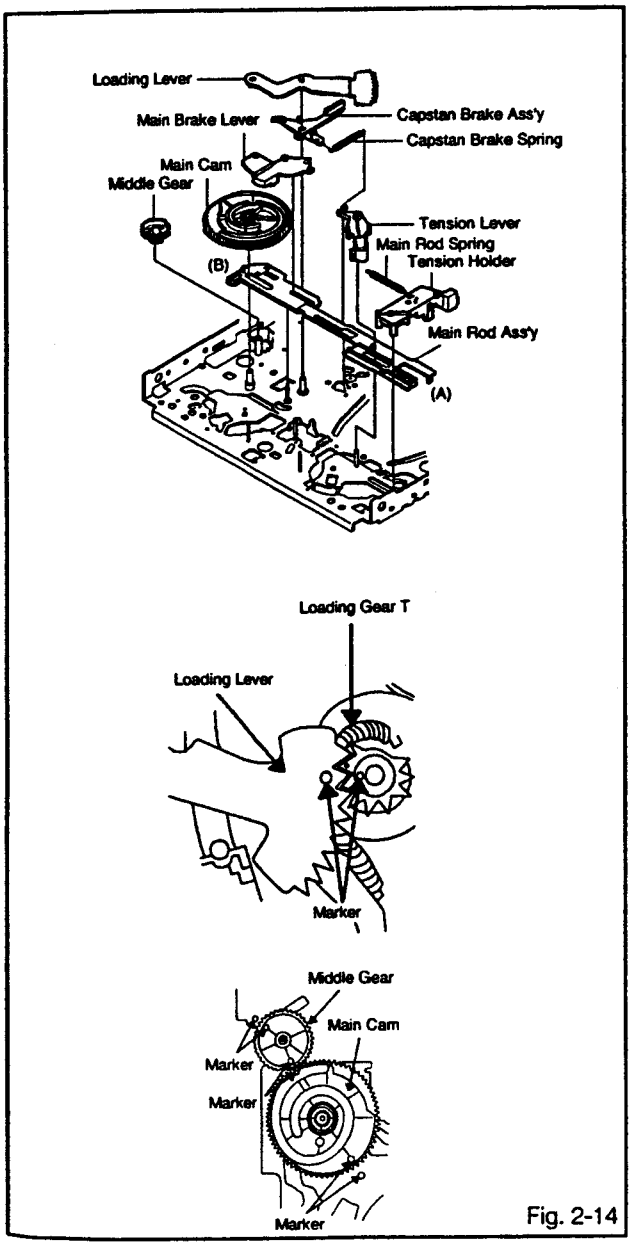


Fig. 2-14

2-15: CAPSTAN DD UNIT (Refer to Fig. 2-15)

1. Disconnect the following connector: (CP4105 9 pins) on the Head Amp PCB.
2. Remove the 3 screws ①.
3. Remove the Capstan DD Unit.

NOTE

Use the specified screw to hold the Capstan DD Unit.

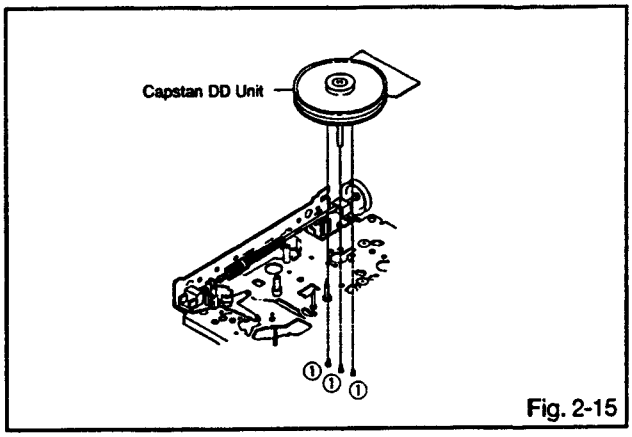


Fig. 2-15

2-16: INCLINED T ASS'Y / INCLINED S ASS'Y (Refer to Fig. 2-16)

1. Remove the 4 screws ①.
2. Remove the Catcher S and Catcher T.
3. Remove the 2 screws ②.
4. Remove the 2 Slider Loadings.
5. Remove the Inclined T Ass'y and Inclined S Ass'y.
6. Remove the Loading Gear T Ass'y.
7. Remove the Loading Gear S Ass'y.

NOTE

When installing the Inclined T Ass'y and Inclined S Ass'y, align the timing marks.

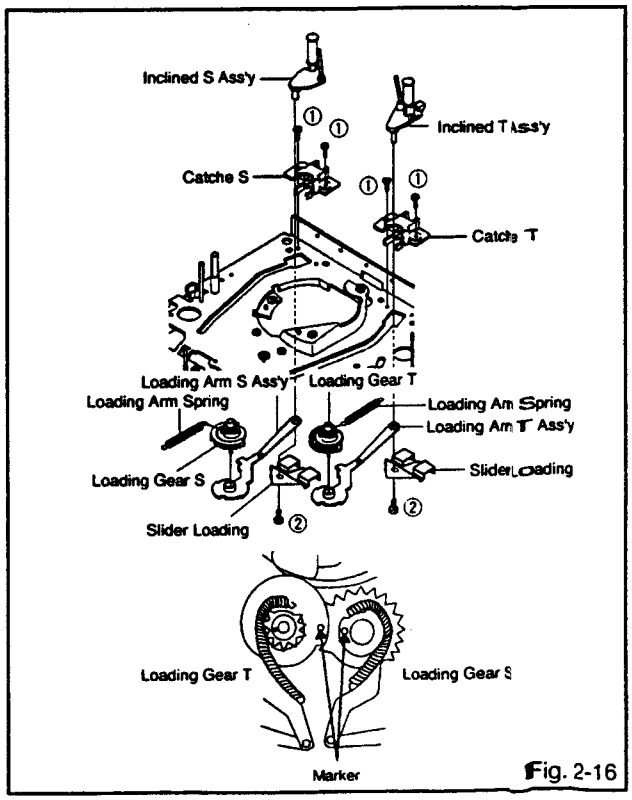


Fig. 2-16

DISASSEMBLY INSTRUCTIONS

3. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

- After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 3-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

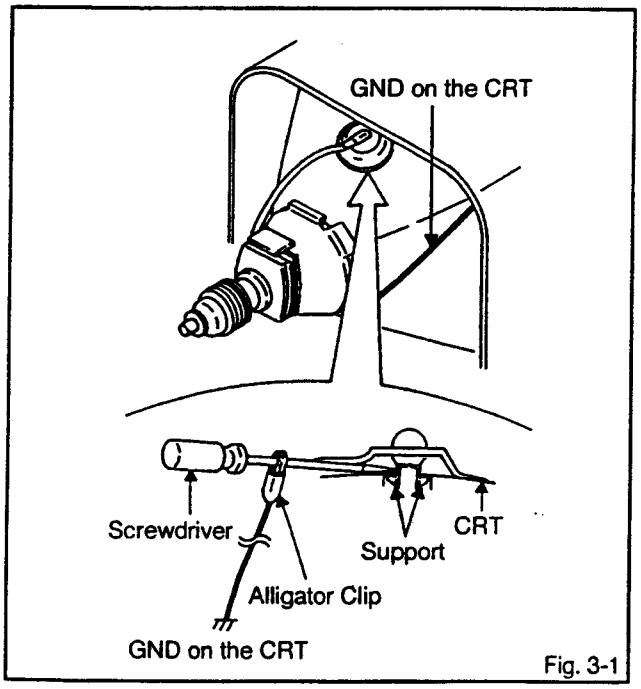


Fig. 3-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 3-2.)**

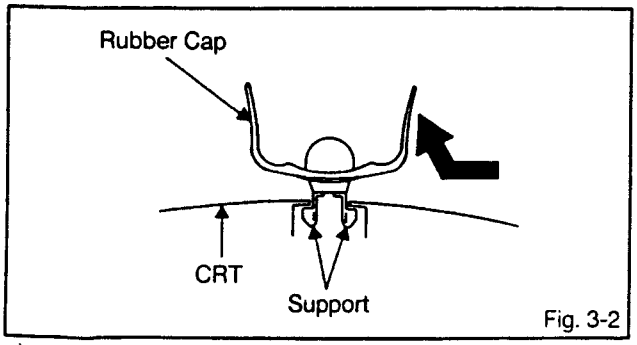


Fig. 3-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 3-3.)**

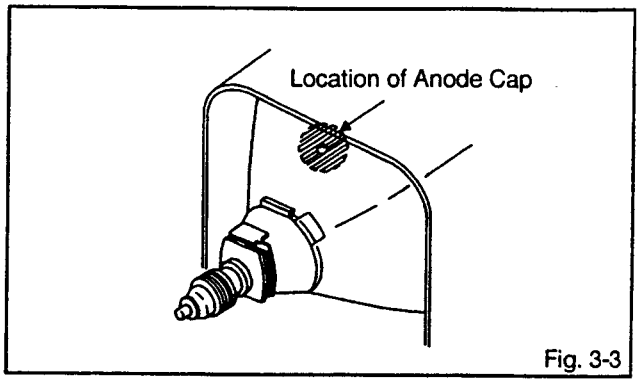


Fig. 3-3

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 3-4.)**

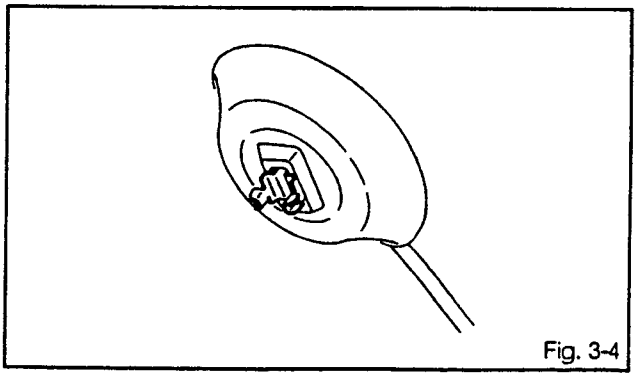


Fig. 3-4

4. Insert one end of the Anode Support into the anode button then the other as shown in **Fig. 3-5.**

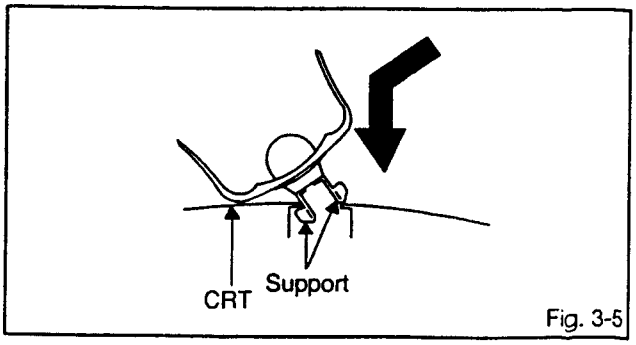


Fig. 3-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

KEY TO ABBREVIATIONS

A	A/C	:	Audio/Control
	ACC	:	Automatic Color Control
	AE	:	Audio Erase
	AFC	:	Automatic Frequency Control
	AFT	:	Automatic Fine Tuning
	AFT DET	:	Automatic Fine Tuning Detect
	AGC	:	Automatic Gain Control
	AMP	:	Amplifier
	ANT	:	Antenna
	A.PB	:	Audio Playback
	APC	:	Automatic Phase Control
	ASS'Y	:	Assembly
	AT	:	All Time
	AUTO	:	Automatic
	A/V	:	Audio/Video
B	BGP	:	Burst Gate Pulse
	BOT	:	Beginning of Tape
	BPF	:	Bandpass Filter
	BRAKE SOL	:	Brake Solenoid
	BUFF	:	Buffer
	B/W	:	Black and White
C	C	:	Capacitance, Collector
	CASE	:	Cassette
	CAP	:	Capstan
	CARR	:	Carrier
	CH	:	Channel
	CLK	:	Clock
	CLOCK (SY-SE)	:	Clock (Syscon to Servo)
	COMB	:	Combination, Comb Filter
	CONV	:	Converter
	CPM	:	Capstan Motor
	CTL	:	Control
	CYL	:	Cylinder
	CYL-M	:	Cylinder-Motor
	CYL SENS	:	Cylinder-Sensor
D	DATA (SY-CE)	:	Data (Syscon to Servo)
	dB	:	Decibel
	DC	:	Direct Current
	DD Unit	:	Direct Drive Motor Unit
	DEMOD	:	Demodulator
	DET	:	Detector
	DEV	:	Deviation
E	E	:	Emitter
	EF	:	Emitter Follower
	EMPH	:	Emphasis
	ENC	:	Encoder
	ENV	:	Envelope
	EOT	:	End of Tape
	EQ	:	Equalizer
	EXT	:	External
F	F	:	Fuse
	FBC	:	Feed Back Clamp
	FE	:	Full Erase
	FF	:	Fast Forward, Flipflop
	FG	:	Frequency Generator
	FL SW	:	Front Loading Switch
	FM	:	Frequency Modulation
	FSC	:	Frequency Sub Carrier
	FWD	:	Forward
G	GEN	:	Generator
	GND	:	Ground
H	H.P.F	:	High Pass Filter
	H.SW	:	Head Switch
	Hz	:	Hertz
I	IC	:	Integrated Circuit
	IF	:	Intermediate Frequency
	IND	:	Indicator
	INV	:	Inverter
K	KIL	:	Killer
L	L	:	Left
	LED	:	Light Emitting Diode
	LIMIT AMP	:	Limiter Amplifier
	LM, LDM	:	Loading Motor
	LP	:	Long Play
	L.P.F	:	Low Pass Filter
	LUMI.	:	Luminance
M	M	:	Motor
	MAX	:	Maximum
	MINI	:	Minimum
	MIX	:	Mixer, mixing
	MM	:	Monostable Multivibrator
	MOD	:	Modulator, Modulation
	MPX	:	Multiplexer, Multiplex
	MS SW	:	Mech State Switch
N	NC	:	Non Connection
	NR	:	Noise Reduction
O	OSC	:	Oscillator
	OPE	:	Operation
P	PB	:	Playback
	PB CTL	:	Playback Control
	PB-C	:	Playback-Chrominance
	PB-Y	:	Playback-Luminance
	PCB	:	Printed Circuit Board
	P. CON	:	Power Control
	PD	:	Phase Detector
	PG	:	Pulse Generator
	P-P	:	Peak-to Peak
R	R	:	Right
	REC	:	Recording
	REC-C	:	Recording-Chrominance
	REC-Y	:	Recording-Luminance
	REEL BRK	:	Reel Brake
	REEL S	:	Reel Sensor
	REF	:	Reference
	REG	:	Regulated, Regulator
	REW	:	Rewind
	REV, RVS	:	Reverse
	RF	:	Radio Frequency
	RMC	:	Remote Control
	RY	:	Relay
S	S. CLK	:	Serial Clock
	S. COM	:	Sensor Common
	S. DATA	:	Serial Data
	SEG	:	Segment
	SEL	:	Select, Selector
	SENS	:	Sensor
	SER	:	Search Mode
	SI	:	Serial Input
	SIF	:	Sound IntermediateFrequency
	SO	:	Serial Output
	SOL	:	Solenoid
	SP	:	Standard Play
	STB	:	Serial Strobe
	SW	:	Switch

KEY TO ABBREVIATIONS

S	SYNC	:	Synchronization
	SYNC SEP	:	Sync Separator, Separation
T	TR	:	Transistor
	TRAC	:	Tracking
	TRICK PB	:	Trick Playback
	TP	:	Test Point
U	UNREG	:	Unregulated
V	V	:	Volt
	VCO	:	Voltage Controlled Oscillator
	VIF	:	Video Intermediate Frequency
	VP	:	Vertical Pulse, Voltage Display
	V.PB	:	Video Playback
	VR	:	Variable Resistor
	V.REC	:	Video Recording
	VSF	:	Visual Search Fast Forward
	VSR	:	Visual Search Rewind
	VSS	:	Voltage Super Source
	V-SYNC	:	Vertical-Synchronization
	VT	:	Voltage Tuning
X	X'TAL	:	Crystal
Y	Y/C	:	Luminance/Chrominance

PREVENTIVE CHECKS AND SERVICE INTERVALS

The following standard table depends on environmental conditions and usage. Unless maintenance is properly carried out, the following service intervals may be quite shortened as harmful effects may be had on other parts. Also, long term storage or misuse may cause transformation and aging of rubber parts.

Time / Parts Name	500 hours	1,000 hours	1,500 hours	2,000 hours	3,000 hours	Notes
Audio Control Head	■	■	■	■	■	Clean those parts in contact with the tape.
Full Erase Head	■	■	■	■	■	
Loading Motor Belt			■	■	●	Clean the rubber, and parts which the rubber touches.
Reel Belt			■	■	●	
Pinch Roller	■	■	■	■	■ ●	
Capstan DD Unit					●	
Loading Motor					●	
Tension Band					●	
Capstan Shaft	■	■	■	■	■	
Tape Running Guide Post	■	■	■	■	■	Replace when rolling becomes abnormal.
Cylinder Unit	■	■	■	■	●	Clean the Head.

● : Replace ■ : Clean

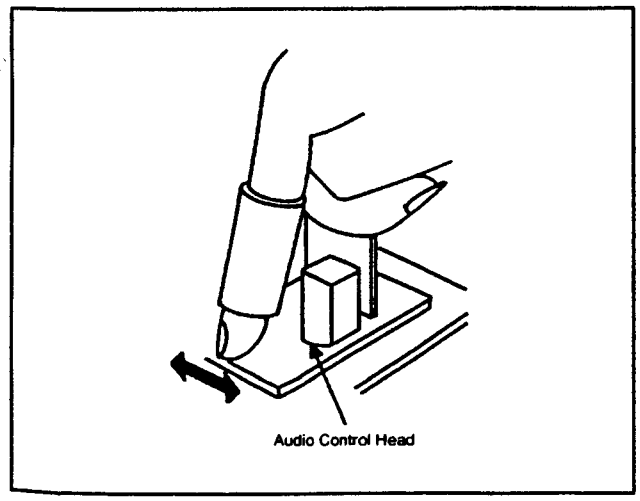
CLEANING

NOTE

- After cleaning the heads with isopropyl alcohol, do not run a tape until the heads dry completely. If the heads are not completely dry and alcohol gets on the tape, damage may occur.

1. AUDIO CONTROL HEAD

- Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol and clean the audio control head by wiping it horizontally. Clean the full erase head in the same manner. **(Refer to the figure below)**



2. TAPE RUNNING SYSTEM

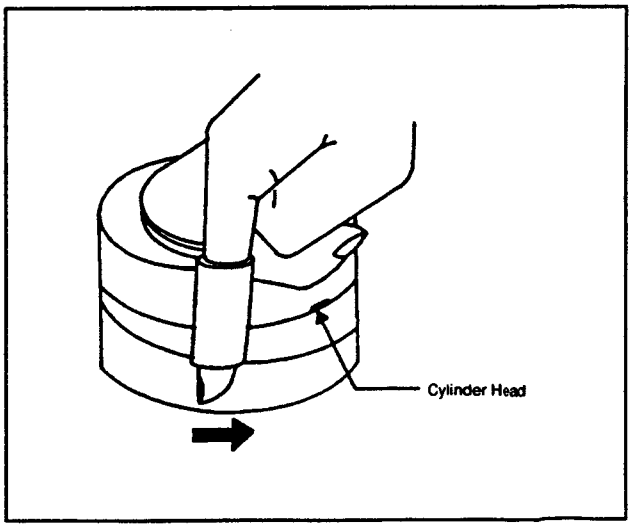
- When cleaning the tape transport system, use the gauze moistened with isopropyl alcohol.

3. CYLINDER

- Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol. Hold it to the cylinder head softly. Turn the cylinder head counterclockwise to clean it (in the direction of the arrow). **(Refer to the figure below)**

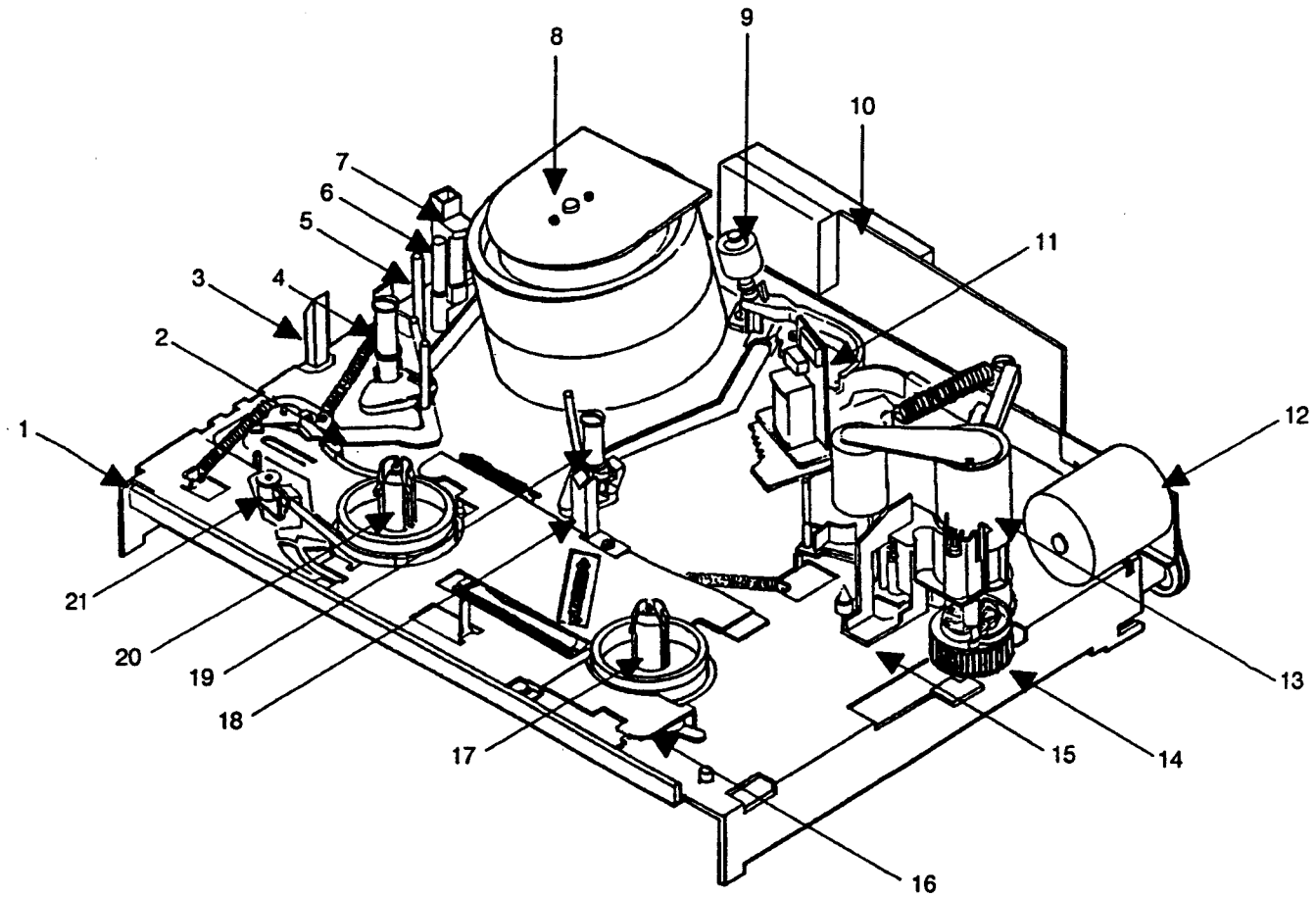
NOTE

Do not exert force against the cylinder head. Do not move the chamois up or down since this can damage the head. Always use a piece of chamois for cleaning.



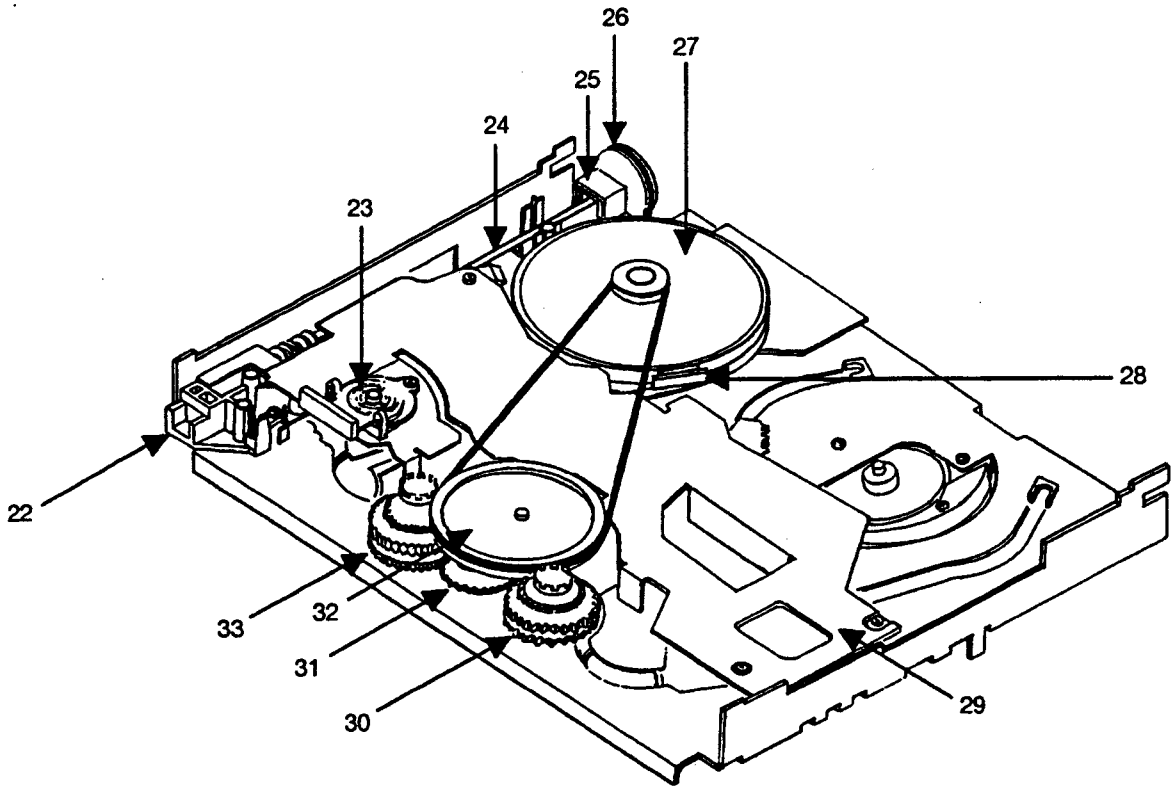
DECK PARTS LOCATIONS

(TOP VIEW)



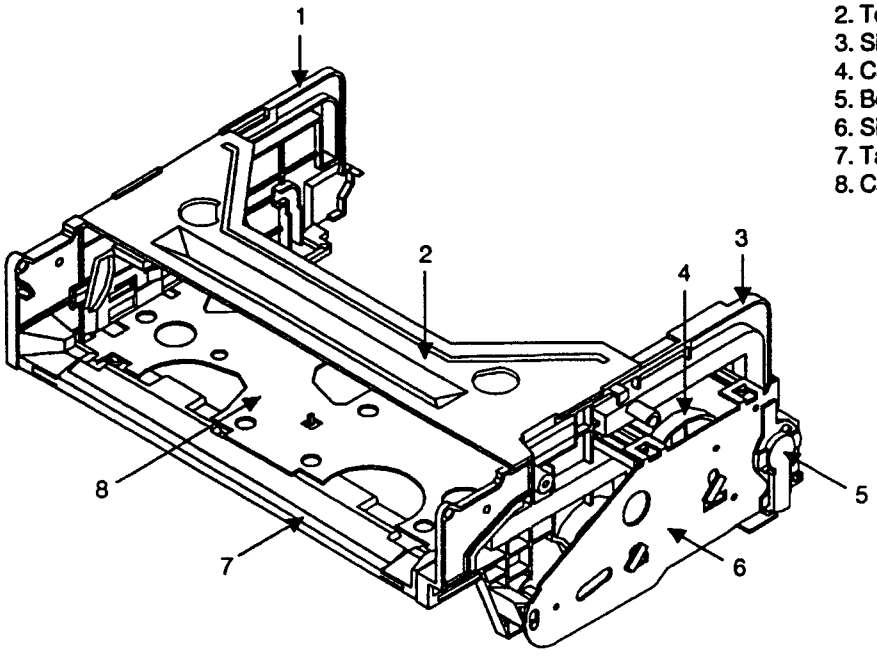
1. Main Chassis
2. Tension Arm Ass'y
3. EOT Reflector
4. Guide Roller S Ass'y
5. P0 Post
6. P1 Post
7. FE Head
8. Cylinder Unit
9. Auto Head Cleaning
10. Head Amp PCB
11. Audio/Control Head
12. Loading Motor
13. Pinch Roller Block
14. Cam Gear
15. Cassette Opener
16. Brake Bracket
17. Reel T
18. LED Reflector
19. Guide Roller T Ass'y
20. Reel S
21. Tension Band Ass'y

DECK PARTS LOCATIONS
(BOTTOM VIEW)



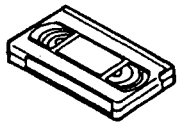
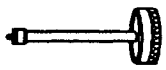
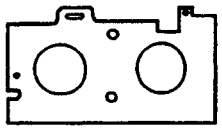
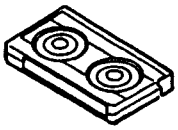
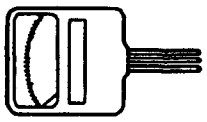
22. Worm Bracket F Ass'y
23. Mode Switch
24. Worm Ass'y
25. Worm Bracket R Ass'y
26. Loading Motor Belt
27. Capstan DD Unit
28 Capstan Brake Ass'y
29. Bottom Plate
30. Clutch Gear S Ass'y
31. Idler Arm Ass'y
32. Center Pulley
33. Clutch Gear T Ass'y

(FRONT LOADING UNIT 9)



1. Side Bracket L
2. Top Bracket Ass'y
3. Side Bracket R Ass'y
4. Cam Gear Ass'y
5. Bot Sensor Cover
6. Side Bracket R2
7. Tape Piece Guide
8. Cassette Holder Ass'y

SERVICING FIXTURES AND TOOLS

VHS Alignment Tape JG001E (VP1S-LI6[3]) JG001F (VP1S-CO1[3]) 	JG002B Adapter JG002F Dial Torque Gauge (60~600gr/cm) JG002G (100~1200gr/cm) 	JG005 Post Adjustment Screwdriver Part No. SV-TG0-030-000 (small) 	JG153 X Value Adjustment Screwdriver 
JG022 Master Plane 	JG024 Reel Disk Height Adjustment Jig 	JG100A Torque Tape (VHT-063) 	Tentelometer 

Part No.	Remarks
JG001E	Monoscope, 6KHz
JG001F	Color Bar, 1KHz
JG002F	Playback Take Up Torque
JG002G	Fast Forward Torque, Rewind Torque, Brake Torque (Take up Reel/Supply Reel)
JG005	Guide Roller Adjustment
JG153	X-Value Adjustment
JG022/JG024	Reel Disk Height Adjustment
JG100A	Playback Back Tension Torque

TO CHECK INITIAL SETTING

NOTE: If there is an error in the data, the unit may indicate a malfunction.

INSTRUCTIONS

1. Unplug the AC cord once and the clock will be non-setting.
2. Receive a TV Broadcast and the Blueback Screen is released.
3. Set the VOLUME to minimum.
4. Press the VOL. DOWN button on the set and the Channel button **(6)** on the remote control simultaneously. The **Fig. 1** appears on the display.
5. Press the SET +/- button on the remote control to modify the address and check the data. **(Refer to Table 1)**
6. After checking, turn off the Power.

(If the wrong data is input)

7. Press the SET +/- button on the remote control to set to the address of the wrong data, then press the ENTER button. The data will bink. **(Refer to Fig. 1)**
8. Press the SET +/- button on the remote control to set to the correct data, then press the ENTER button. **(Refer to Table 1)**
9. Repeat the above steps 7 and 8 and input the data into the each Address.
10. After the data input, turn off the Power.

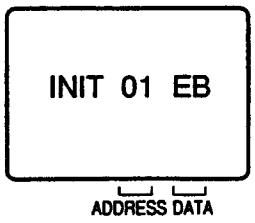


Fig. 1

ADDRESS	INI 01	INI 02	INI 03	INI 04	INI 05	INI 06
DATA	42	31	29	10	8C	34

Table 1

MECHANICAL ADJUSTMENTS

1. CONFIRMATION AND ADJUSTMENT

Read the following NOTED items before starting work.

- Place an object which weighs between 350g and 500g on the Cassette Tape to keep it steady when you want to make the tape run without the Front Loading Unit 9. (Do not place an object which weighs over 500g.)
- When you activate the deck without the Front Loading Unit 9, short circuit between **TP1001** and **Ground.** In this condition the BOT/EOT/Reel Sensor will not function.

1-1: CONFIRMATION AND ADJUSTMENT OF REEL DISK HEIGHT

1. Turn on the power and set to the STOP mode.
2. Set the master plane **(JG022)** and reel disk height adjustment jig **(JG024)** on mechanism framework, taking care not to scratch the drum, as shown in **Fig. 1-1-A.**
3. Confirm that the reel disk is lower than "A" of the reel disk height adjustment jig **(JG024)** on the master plane and higher than "B" as shown in **Fig. 1-1-B.** If it is not, adjust to less than 7.5mm±0.2mm with the height adjustment washer.
4. Perform the same adjustment for other reel.

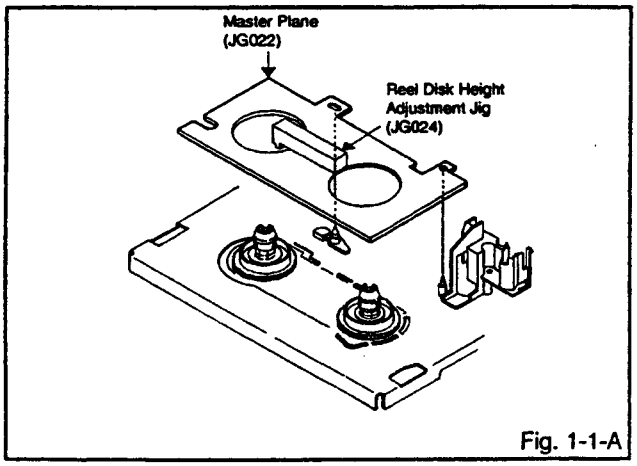


Fig. 1-1-A

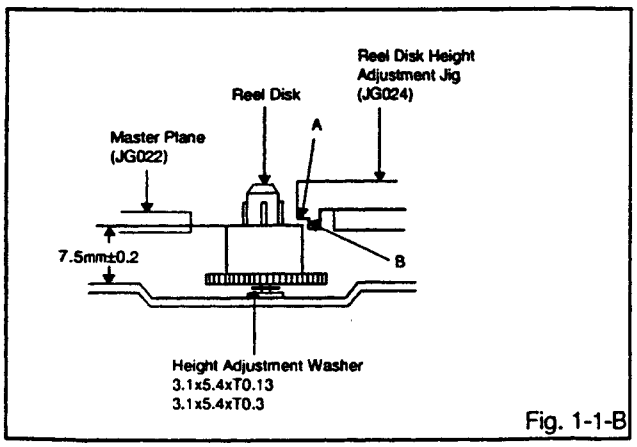


Fig. 1-1-B

1-2: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION

1. Turn on the power and set to the PLAY mode adjust the Tension so that the Tension Post is at the position of 0.3mm~0.5mm from the Rib. **(Refer to Fig. 1-2)**
2. Confirm that the video tape is not curling at the flange of P1 post or is not running on flanges.

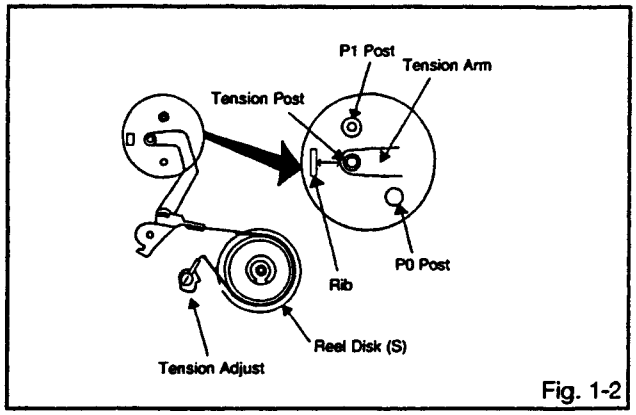


Fig. 1-2

1-3: CONFIRMATION AND ADJUSTMENT OF BACK TENSION ON PLAYBACK

1. Load a video tape recorded in standard speed mode. Set the unit to the PLAY mode.
2. Install the tentelometer as shown in **Fig. 1-3.** Confirm the value is within 20~27gr/cm at this time.

- IN CASE OF USING A CASSETTE TYPE TORQUE TAPE.

1. After adjustment, confirm and adjust the tension post position **(Refer to item 1-2)** for the tension arm, install the cassette type torque tape **(JG100A)** and set to the PLAY mode.
2. Confirm that the left hand side tension value of the torque tape is 25~38gr/cm for the standard mode tape.

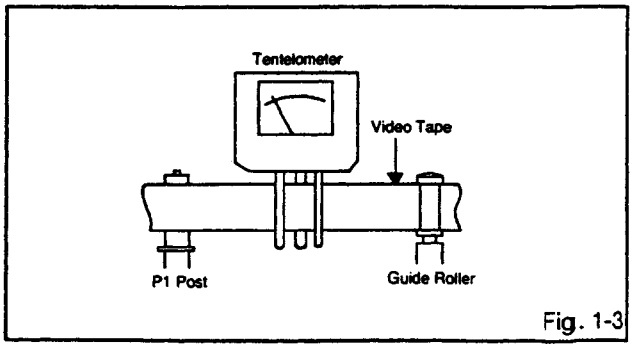


Fig. 1-3

MECHANICAL ADJUSTMENTS

1-4: CONFIRMATION OF FAST FORWARD TORQUE

1. Set torque gauge **(JG002G)** on take-up reel disk, and place unit in FAST FORWARD mode. **(Refer to Fig. 1-4)**
2. Confirm that torque is more than 400gr/cm.

NOTE

After setting the torque gauge on the reel disk, hold the gauge in place.
Push the FAST FORWARD button and the reel disk will begin to turn.

1-5: CONFIRMATION OF REWIND TORQUE

1. Operate within 4 or 5 seconds after the reel disk begins to turn.
2. Set torque gauge **(JG002G)** on supply reel disk, and place the unit in REWIND mode. **(Refer to Fig 1-4).**
3. Confirm that torque is more than 400gr/cm.

NOTE

After setting the torque gauge on the reel disk, hold the gauge in place.
Push the REWIND button and the reel disk will begin to turn.

1-6: CONFIRMATION OF REEL BRAKE TORQUE

(Take-Up Reel Brake) **(Refer to Fig. 1-4)**

1. Set to STOP mode.
2. Set the torque gauge **(JG002G)** to the take-up reel and turn it counterclockwise.
3. Confirm that it is more than 200gr/cm at that time.

(Supply Reel Brake) **(Refer to Fig. 1-4)**

1. Set to STOP mode.
2. Set the torque gauge **(JG002G)** to the supply reel and turn it clockwise.
3. Confirm that it is more than 200gr/cm at that time.

NOTE

Separate the idler from the reel and confirm the brake torque.

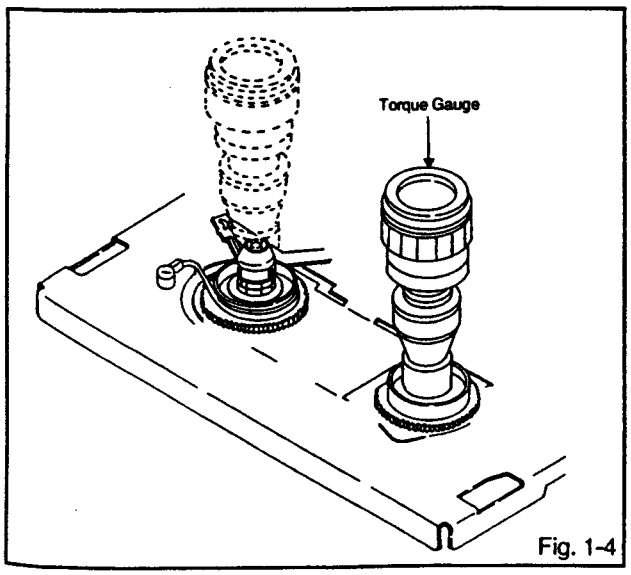


Fig. 1-4

NOTE

If the torque value checked is out of tolerance, replace the appropriate parts as follows.

Check Items	Replace Parts
1-4	Idler Ass'y or Clutch ASS'Y
1-5	Idler Ass'y or Clutch ASS'Y
1-6	Main Brake T Ass'y or Main Brake S Ass'y

2. TAPE RUNNING CONFIRMATION AND ADJUSTMENT

Tape running is adjusted precisely at the factory. Normally, it is not necessary to make adjustments. It is necessary to confirm and make adjustments when the parts of the tape running mechanism are replaced because of extensive usage or failure.

2-1: GUIDE ROLLER

1. Connect CH-1 on the oscilloscope to **TP4002 (PB Envelope)** and CH-2 to **TP4001 (SW Pulse).**
2. Set the tracking to manual center position in the following way. Press and hold the tracking auto button more than 2 seconds to set the tracking to center position.
3. Trigger with SW pulse and observe the envelope. **(Refer to Fig. 2-1-A)**
4. Adjust the guide roller height while observing the envelope, and make the envelope flat. Adjust the envelope so that the flatness will not be affected even when the tracking control button is pressed. (Use the adjustment screwdriver **JG005**).
5. Press and hold the tracking control button and (at the point that the envelope waveform starts to reduce) adjust the envelope so that the A : B ratio is better than 3 : 2. **(Refer to Fig. 2-1-B)**
6. Adjust the PG shifter **(ELECTRICAL ADJUSTMENTS : ITEM 3-1)** in the PLAY mode.

NOTE

After adjustment, confirm and adjust A/C head tilt. **(Refer to item 2-2)**

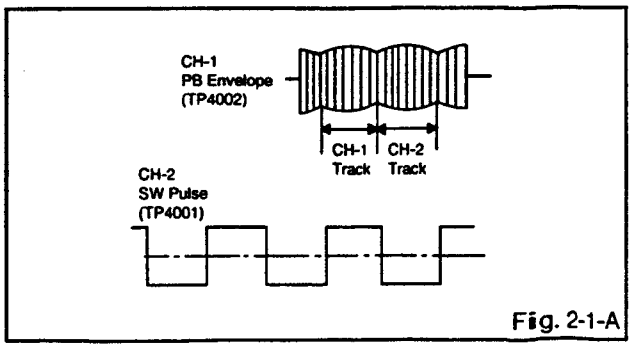


Fig. 2-1-A

MECHANICAL ADJUSTMENTS

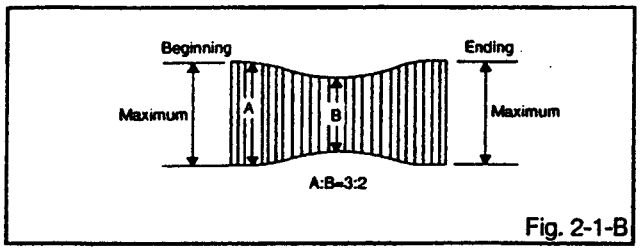


Fig. 2-1-B

2-2: CONFIRMATION AND ADJUSTMENT OF A/C HEAD TILT

When the tape is running abnormally, perform the following adjustments.

1. Insert a new tape and play it back.
2. Confirm that there is no crease on the tape between the P4 post and guide roller (R) and the tape is running smoothly. (It is absolutely impossible to get satisfactory sound if the tape is distorted between the A/C head and P4 post.)
3. If the tape still does not run smoothly, turn the screw ① and adjust the tilt of the A/C head. **(Refer to Fig. 2-2)**

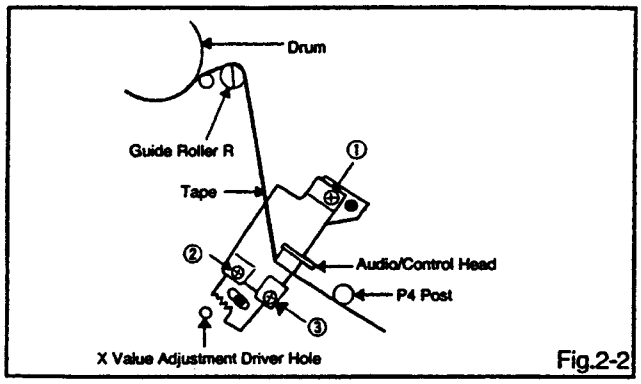


Fig.2-2

2-3: ADJUSTMENT OF A/C HEAD HEIGHT AND AZIMUTH

1. Playback a VHS alignment tape **(JG001E)** and observe the waveform at the audio output terminal.
2. Turn the screw ② slowly to change the azimuth of the A/C head. Adjust the height so that the audio output becomes maximum. **(Refer to Fig. 2-2)**
3. Adjust the screw ③, **(Refer to Fig. 2-2)** until the height of the A/C head reaches the position against the tape as shown in **Fig. 2-3.**
4. When the control head height is not correct. (When you must turn the screw more than 45 degrees), Turn all of the screws ①, ② and ③ to the same degrees. Then confirm the angle of the audio/control head and adjust again.

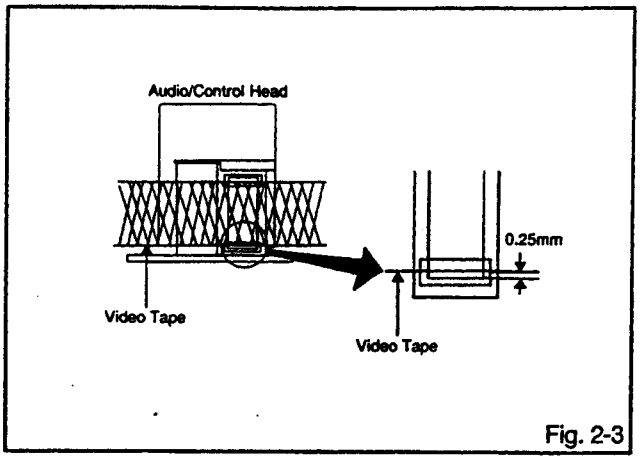


Fig. 2-3

2-4: TAPE RUNNING ADJUSTMENT

1. Adjust the height of reel disk. **(Refer to item 1-1)**
2. Confirm and adjust tension post position. **(Refer to item 1-2)**
3. Adjust the guide roller. **(Refer to item 2-1)**
4. Adjust the A/C head tilt. **(Refer to item 2-2)**
5. Adjust the A/C head height and azimuth. **(Refer to item 2-3)**
6. Connect CH-1 on the oscilloscope to **TP4001** and CH-2 to **TP4002.** Playback the VHS alignment tape **(JG001E).** Set the tracking to manual center. Adjust X with the screw driver for X **(JG153)** as the **Fig. 2-1-A** and **Fig. 2-1-B. (Refer to No. 2 of the item 2-1).**

ELECTRICAL ADJUSTMENTS

(VCR SECTION)
3. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

When replacing IC's or transistors, use a silicon grease . (To prevent the damage to IC's and transistors.)

3-1: PG SHIFTER (HEAD SWITCHING)

CONDITIONS

MODE-PLAYBACK
Input Signal-Alignment Tape **(JG001F)** or Similar

INSTRUCTIONS

1. Unplug the AC cord once and the clock is non-setting mode and set the volume to minimum.
2. Playback the alignment tape. **(JG001F)**
3. Press the VOL. DOWN button on the set and the channel button **(3)** on the remote control simultaneously until the indicator REC disappears. If the indicator REC disappears, adjustment is completed.

(If the above adjustments doesn't work well;)

1. Connect CH-1 on the oscilloscope to **TP4001** and CH-2 to **pin 7 of CP802.**
2. Playback the alignment tape. **(JG001F)**
3. Press the VOL. DOWN button on the set and the channel button **(3)** on the remote control simultaneously until the indicator REC disappears.
4. When the REC indicator is blinking, press both VOL. DOWN button on the set and the channel button **(4)** on the remote control simultaneously and adjust the Tracking +/- button until the arising to the down of the Head Switching Pulse becomes 6.5 ± 0.5 H.
5. Press the Tracking Auto button.

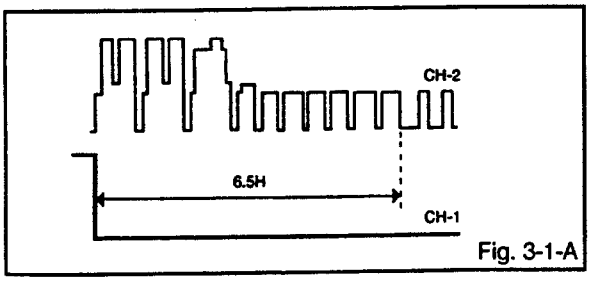


Fig. 3-1-A

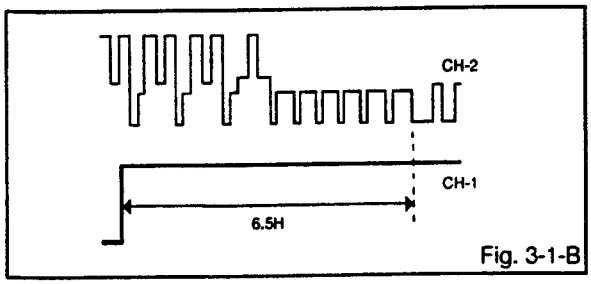
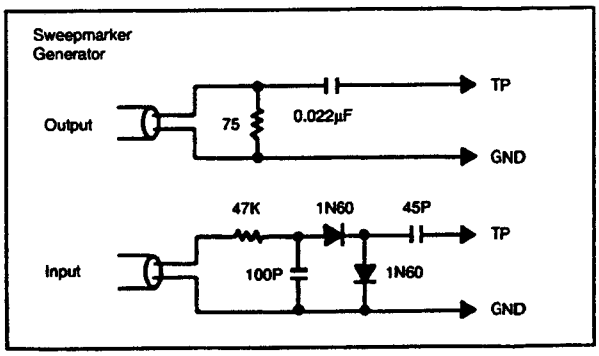


Fig. 3-1-B

3-2: VCO COIL

NOTE

For adjusting of VCO, connect input and output terminals of sweepmarker generator to the circuit as shown below, then adjust it.



CONDITION

: MODE-STOP

INSTRUCTIONS

1. Connect the output of sweepmarker generator to **pin 5 of IC6001.**
2. Connect the input of sweepmarker generator to **pin 17 of IC6001.**
3. Connect a 10K ohm variable resistor to IF AGC terminal **(pin 4 of IC6001)**, 5V line and ground, then adjust to make the waveform of the oscilloscope readable.
4. Adjust the **L6011** until the waveform marker (38.9MHz) becomes as shown in **Fig. 3-2.**

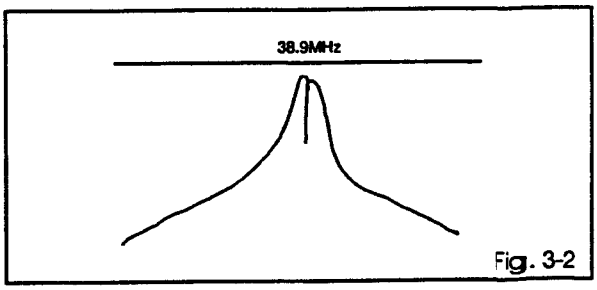


Fig. 3-2

ELECTRICAL ADJUSTMENTS

3-3: AFT COIL

CONDITION

MODE-STOP

INSTRUCTIONS

1. Connect the output of sweepmarker generator to **pin 5 of IC6001.**
2. Connect the input of sweepmarker generator to **pin 4 of CP6001.**
3. Adjust the **L6012** until the waveform marker (38.9MHz) becomes as shown in **Fig. 3-3.**
4. Disconnect the sweepmarker generator and the oscilloscope.
5. Connect the generator (38.9MHz) to the **pin 4 of CP6115** through 100 ohm and connect the DC voltmeter to **pin 3 of CP6115.**
6. Adjust the **L6012** until the DC voltage at **pin 3 of CP6115** is 2.6V±0.2V.

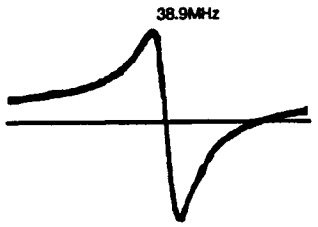


Fig. 3-3

(TV SECTION)

4. BASIC ADJUSTMENTS

On-Screen Display Adjustment

Unplug the AC cord once and the clock is non-setting mode and set the volume to minimum.
Press the VOL. DOWN button on the set and the Channel button **(9)** on the remote control simultaneously to appear the adjustment mode on the screen as shown in **Fig. 4-1.**

NOTE

Use the 1 - 7 keys on the remote control to select the options shown in **Fig. 4-1, Fig. 4-2, Fig. 4-3, Fig. 4-4, Fig. 4-5** and **Fig. 4-6.**
Press the 8 key to end the adjustments.

ADJUSTMENT MODE1
1. H PHASE
2. V DC
3. V SIZE
4. AGC
5. CUT OFF
6. OSD H

7. NEXT 8. END

Fig. 4-1

ADJUSTMENT MODE2
1.
2. RED BIAS
3. GREEN BIAS
4. BLUE BIAS
5. GREEN DRIVE
6. BLUE DRIVE

7. NEXT 8. END

Fig. 4-2

ADJUSTMENT MODE3
1. BRIGHT
2. CONTRAST
3. COLOR
4. TINT
5. SHARPNESS
6. E-RGB CONT

7. NEXT 8. END

Fig. 4-3

ADJUSTMENT MODE4
1. R-Y B OFFSET
2. B-Y B OFFSET
3.
4.
5.
6.

7. NEXT 8. END

Fig. 4-4

ADJUSTMENT MODE5
1. WIDE V SART
2. WIDE V STOP
3. WIDE P SART
4. WIDE P STOP
5. V S-COR
6. V LINEA

7. NEXT 8. END

Fig. 4-5

ADJUSTMENT MODE6
1. H PHASE 60
2. WIDE V STOP 60
3. V LINEA 60
4.
5.
6.

7. NEXT 8. END

Fig. 4-6

ELECTRICAL ADJUSTMENTS

4-1: CUT OFF

1. Activate the adjustment mode display of **Fig. 4-1** and press the channel button **(5)** on the remote control.
2. Adjust the **Screen Volume** until picture is distinct.

4-2: WHITE BALANCE

1. Receive the color bar pattern.
2. Adjust the adjustment mode display of **Fig. 4-2** until the white color is looked like a white.

4-3: FOCUS

1. Receive the broadcasting signal.
2. Adjust the **Focus Volume** until picture is distinct.

4-4: HORIZONTAL PHASE

1. Receive the color bar pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 4-1** and press the channel button **(1)** on the remote control.
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

4-5: VERTICAL POSITION

1. Receive the color bar pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 4-1** and press the channel button **(2)** on the remote control.
4. Press the VOL. UP/DOWN button on the remote control until the horizontal line of the color bar comes to approximate center of the CRT.

4-6: VERTICAL SIZE

1. Receive the monochrome pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 4-1** and press the channel button **(3)** on the remote control.
4. Press the VOL. UP/DOWN button on the remote control until the horizontal overscan is equal to the vertical overscan.

4-7: VERTICAL LINEA

1. Receive the monochrome pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 4-5** and press the channel button **(6)** on the remote control.
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

4-8: HORIZONTAL PHASE 60 (AV)

1. Receive the monochrome pattern (Audio Video Input).
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 4-6** and press the channel button **(1)** on the remote control.
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

4-9: VERTICAL LINEA 60 (AV)

1. Receive the monochrome pattern (Audio Video Input).
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 4-6** and press the channel button **(3)** on the remote control.
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

4-10: OSD HORIZONTAL

1. Using the remote control, set the brightness and contrast to normal position.
2. Activate the adjustment mode display of **Fig. 4-1** and press the channel button **(6)** on the remote control.
3. Press the VOL. UP/DOWN button on the remote control until the difference of A and B becomes minimum. **(Refer to Fig. 4-7)**

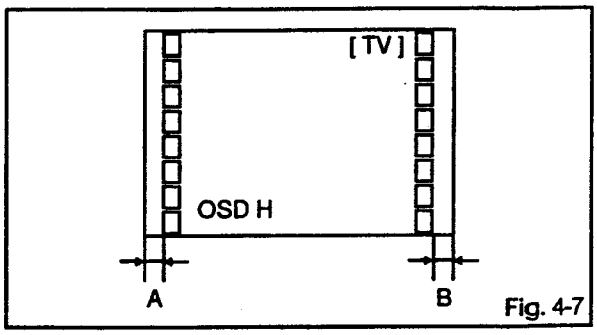


Fig. 4-7

4-11: SUB CONTRAST (TV)

1. Receive the monochrome pattern (RF Input).
2. Activate the adjustment mode display of **Fig. 4-3** and press the channel button **(2)** on the remote control.
3. Press the VOL. UP/DOWN button on the remote control until the CONTRAST level is set to the "0".

4-12: SUB CONTRAST (AV)

1. Receive the monochrome pattern (Audio Video Input).
2. Activate the adjustment mode display of **Fig. 4-3** and press the channel button **(2)** on the remote control.
3. Press the VOL. UP/DOWN button on the remote control until the CONTRAST level is set to the "0".

4-13: SUB BRIGHTNESS (TV)

1. Receive the monochrome pattern (RF Input).
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 4-3** and press the channel button **(1)** on the remote control.
4. Press the VOL. UP/DOWN button on the remote control until the white 25% is slightly brilliant.

4-14: SUB BRIGHTNESS (AV)

1. Receive the monochrome pattern (Audio Video Input).
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 4-3** and press the channel button **(1)** on the remote control.
4. Press the VOL. UP/DOWN button on the remote control until the white 25% is slightly brilliant.

ELECTRICAL ADJUSTMENTS

4-15: SUB COLOR (TV)

1. Receive the color bar pattern (RF Input).
2. Connect the oscilloscope to **TP801**.
3. Activate the adjustment mode display of **Fig. 4-3** and press the channel button **(3)** on the remote control.
4. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
5. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 85% of the white level. **(Refer to Fig. 4-8)**

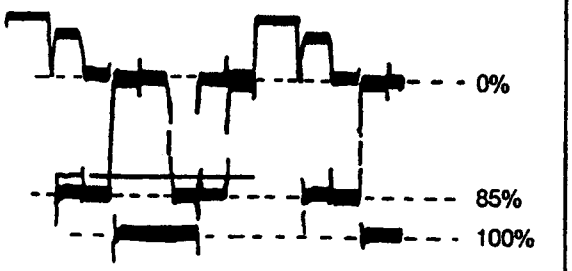


Fig. 4-8

4-16: SUB COLOR (AV)

1. Receive the color bar pattern (Audio Video Input).
2. Connect the oscilloscope to **TP801**.
3. Activate the adjustment mode display of **Fig. 4-3** and press the channel button **(3)** on the remote control.
4. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
5. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 85% of the white level. **(Refer to Fig. 4-8)**

4-17: CONSTANT VOLTAGE

1. Using the remote control, set the brightness and contrast to normal position.
2. Connect the DC voltmeter to **TP401**.
3. Set condition is AV MODE without signal.
4. Adjust the **VR502** until the DC voltmeter is 103V ± 0.5V.

ELECTRICAL ADJUSTMENTS

5. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

5-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 5-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

5-2: PURITY

NOTE

Adjust after performing adjustments in section 5-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at ends are equally wide.
3. Move the deflection yoke backward (To neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

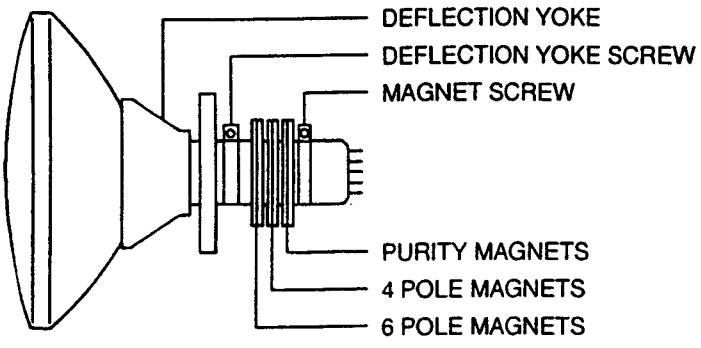


Fig. 5-1

5-3: STATIC CONVERGENCE

NOTE

1. Receive the crosshatch pattern from color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

5-4: DYNAMIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 5-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 5-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 5-2-b)**

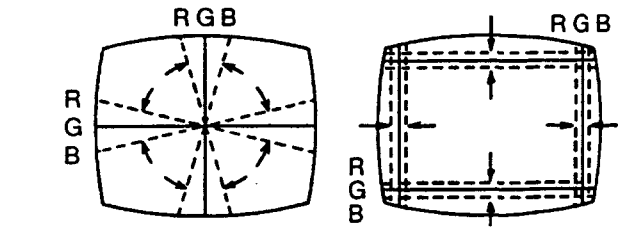
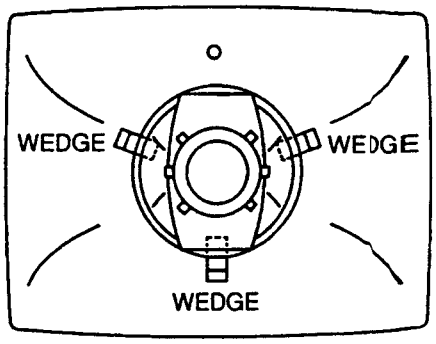


Fig. 5-2-a

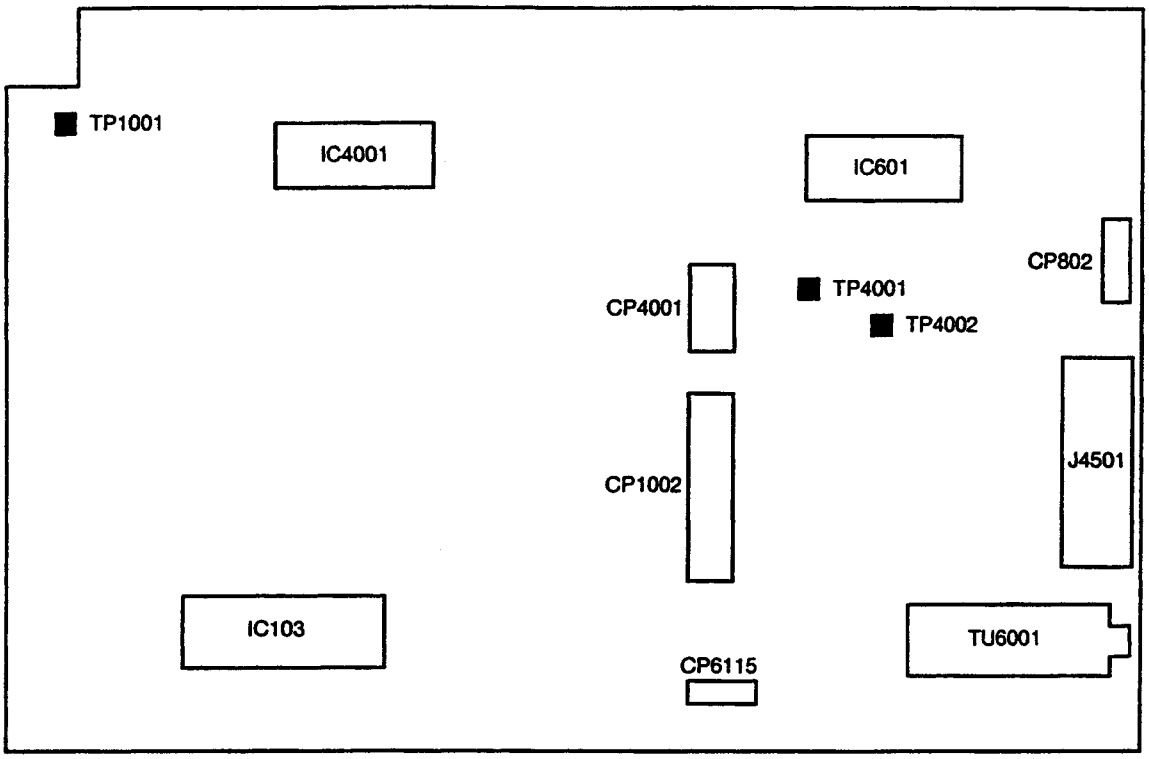


WEDGE POSITION

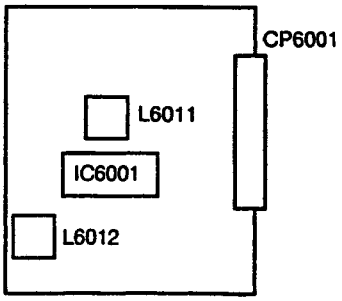
Fig. 5-2-b

MAJOR COMPONENTS LOCATION GUIDE

(VCR SECTION)



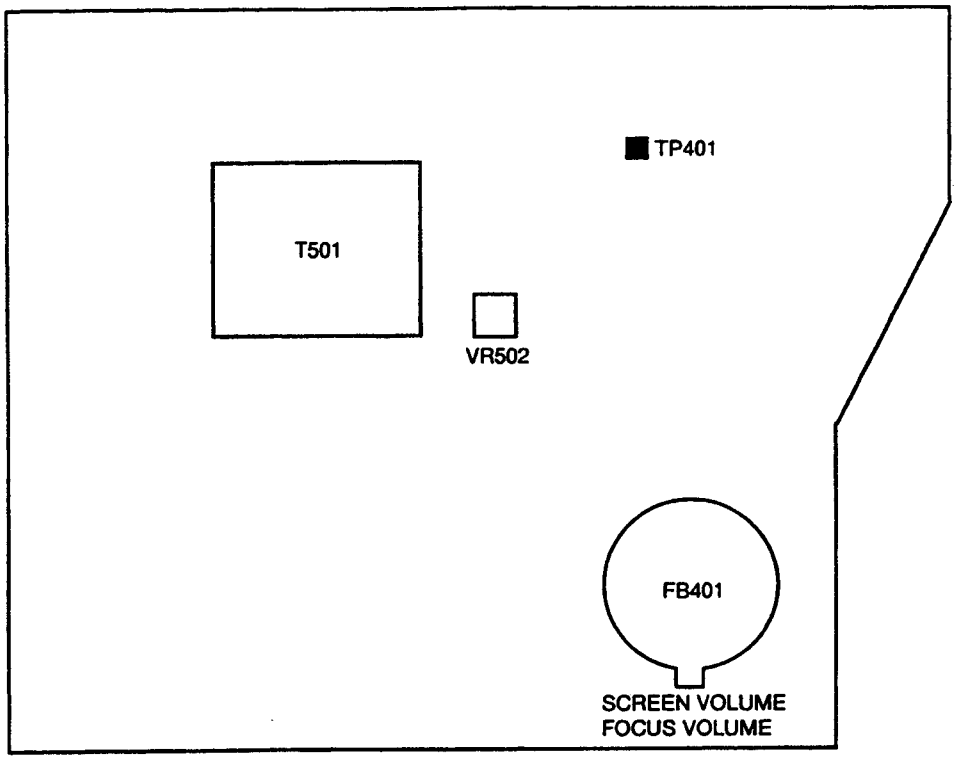
SYSCON



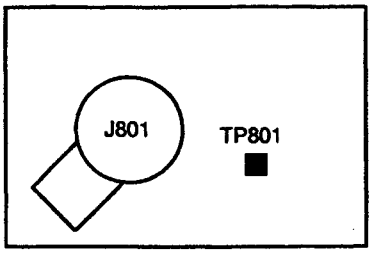
IF

MAJOR COMPONENTS LOCATION GUIDE

(TV SECTION)

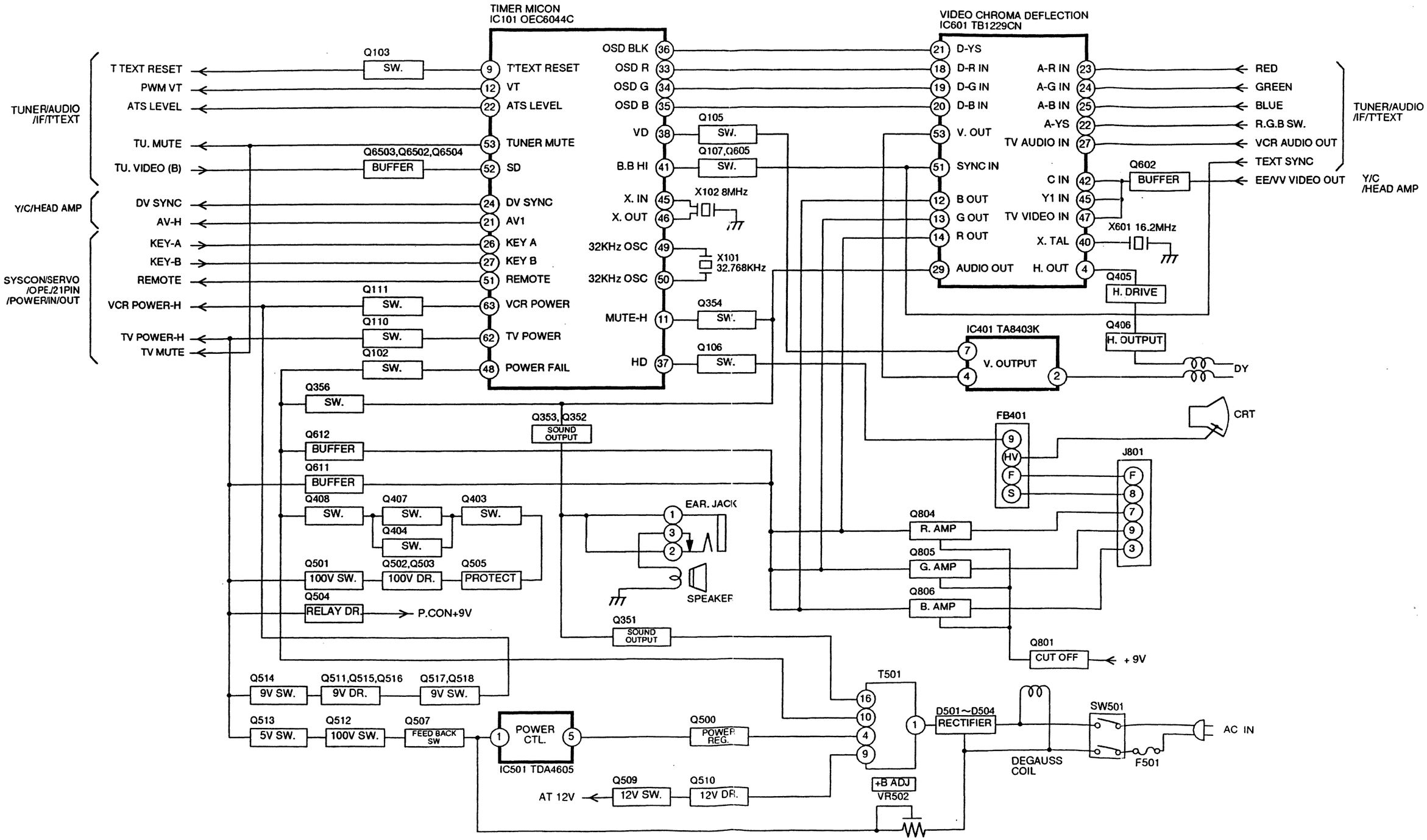


MAIN

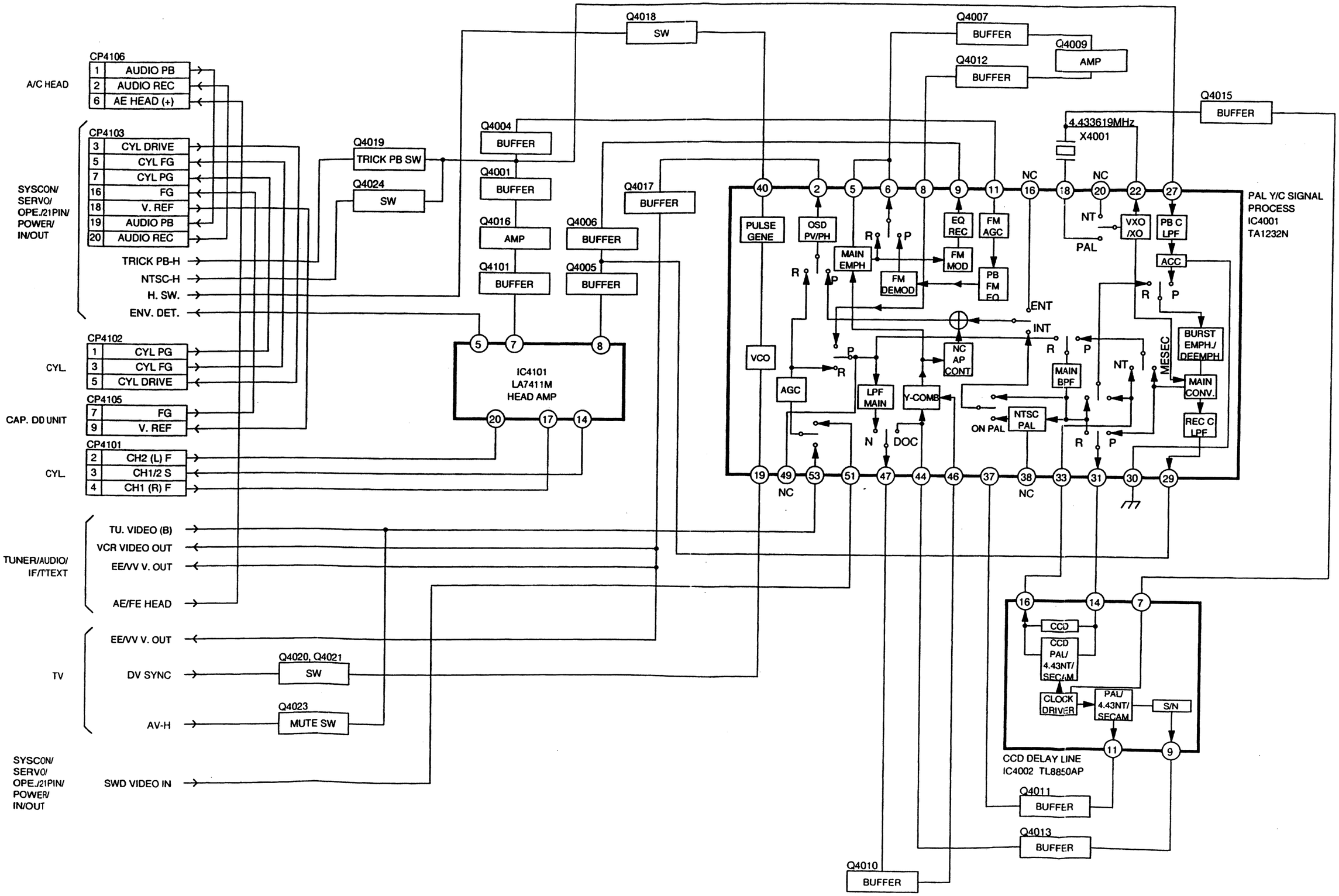


CRT

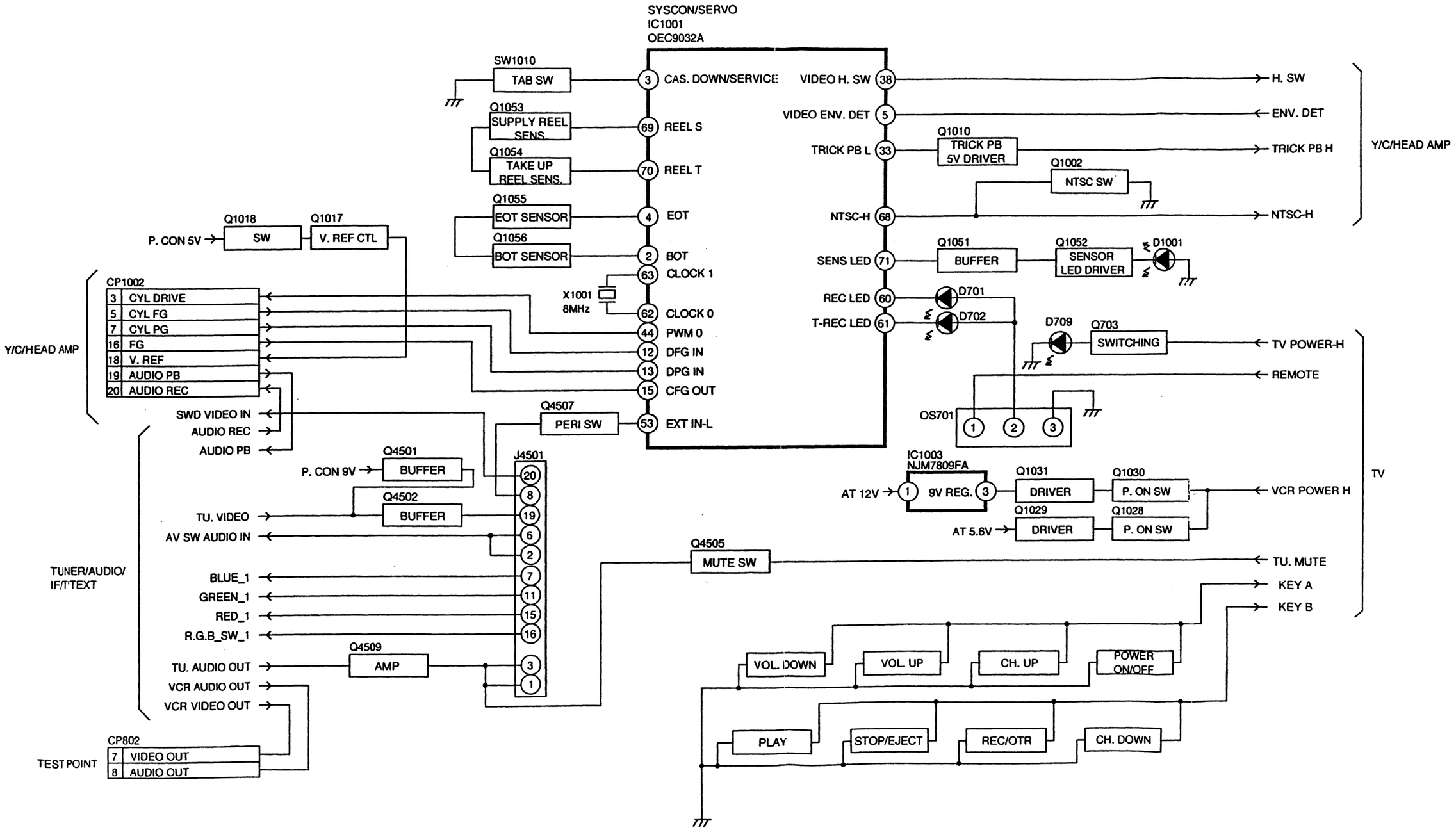
TV BLOCK DIAGRAM



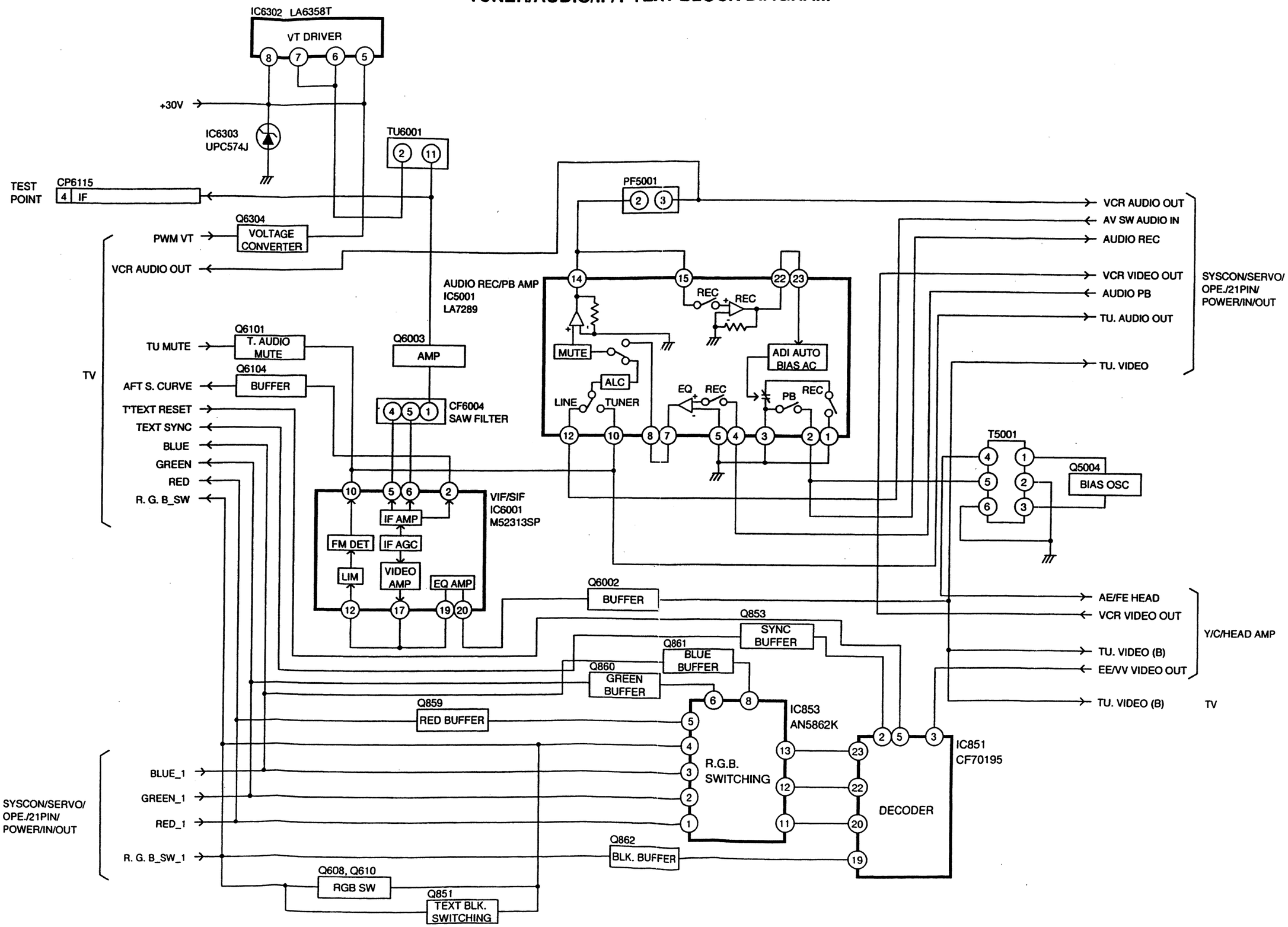
Y/C/HEAD AMP BLOCK DIAGRAM



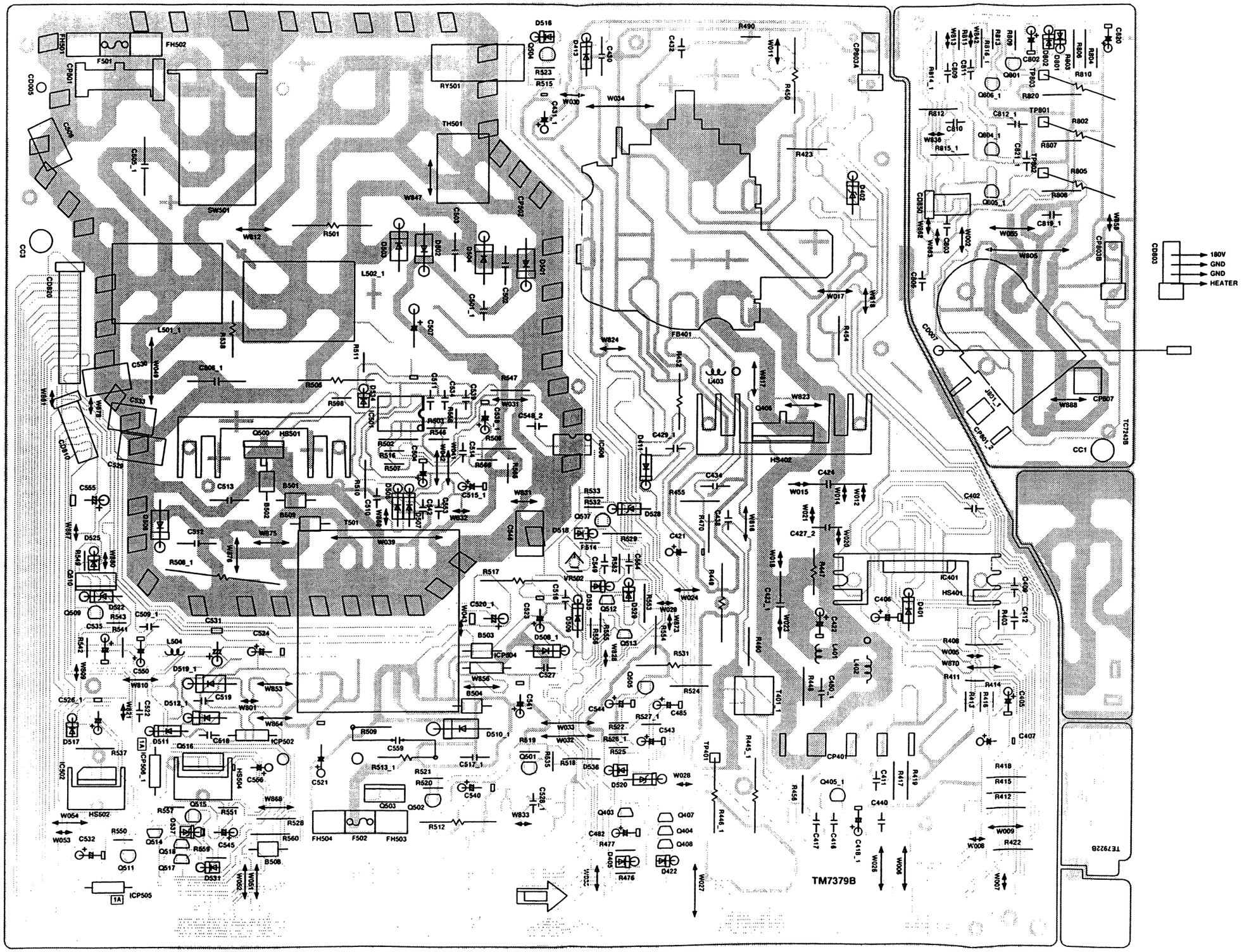
SYSTEM CONTROL/SERVO/OPERATION/21PIN/POWER/IN/OUT BLOCK DIAGRAM



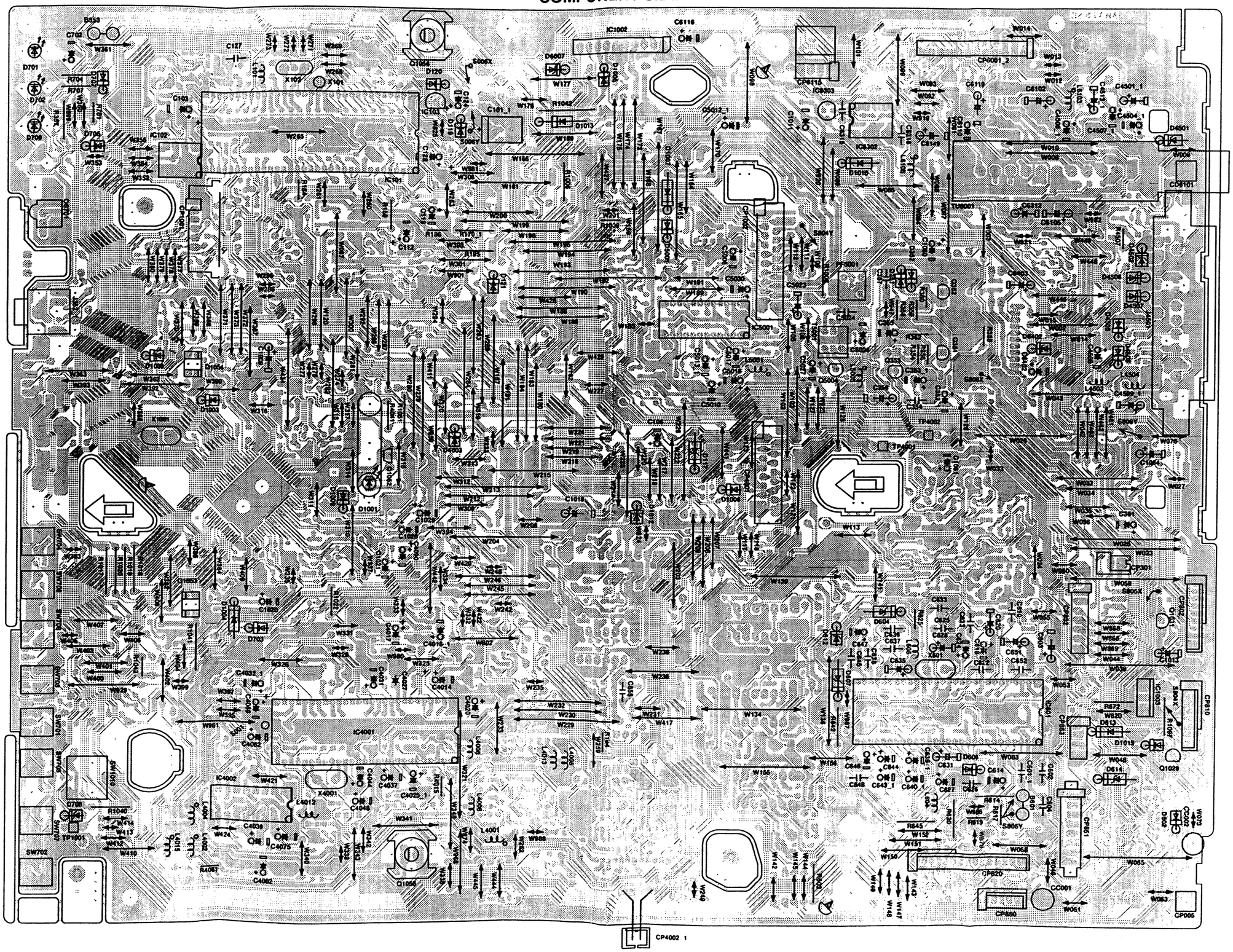
TUNER/AUDIO/IF/T'TEXT BLOCK DIAGRAM



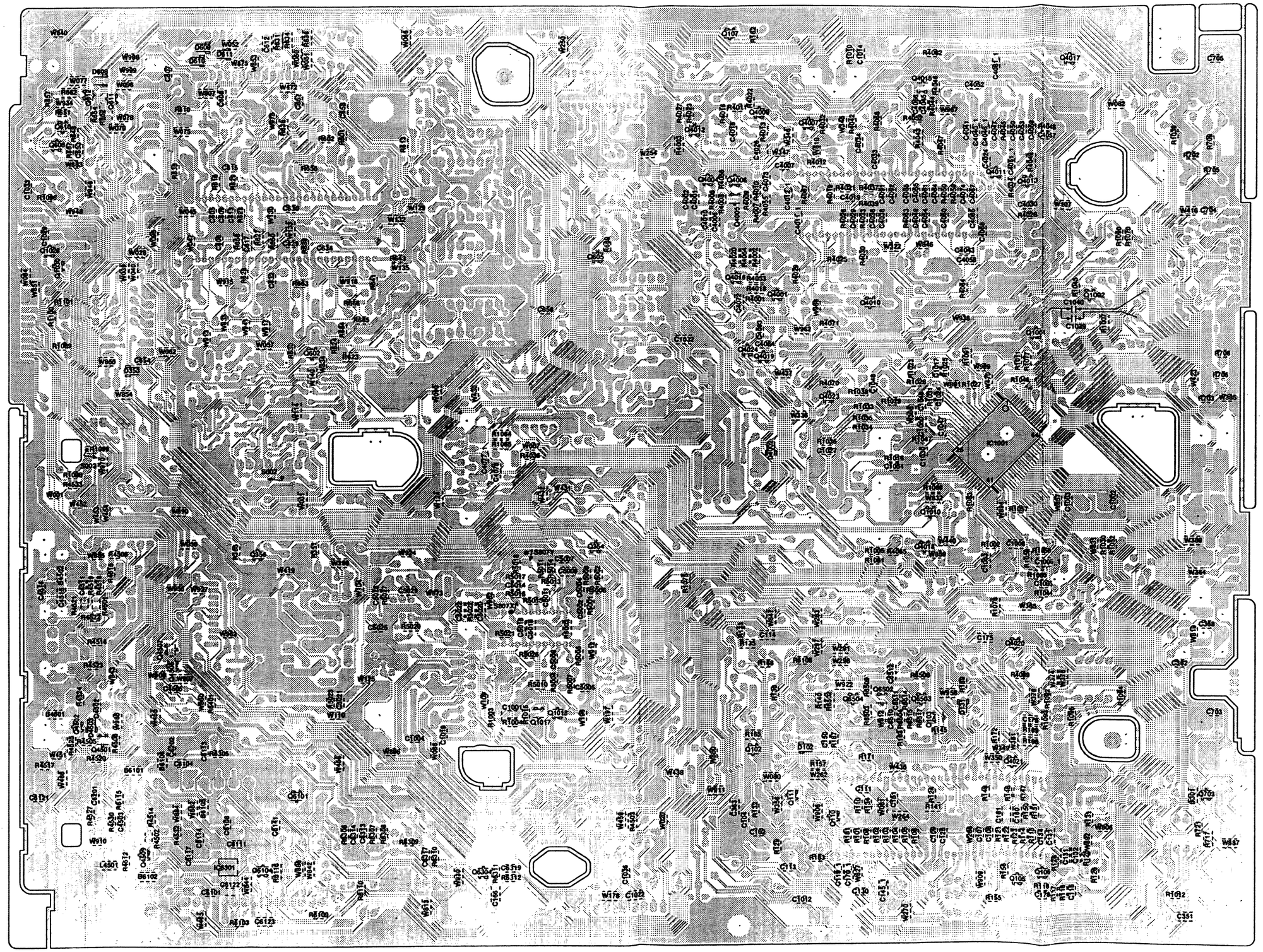
PRINTED CIRCUIT BOARDS
MAIN/CRT



PRINTED CIRCUIT BOARDS
SYSCON
COMPONENT SIDE

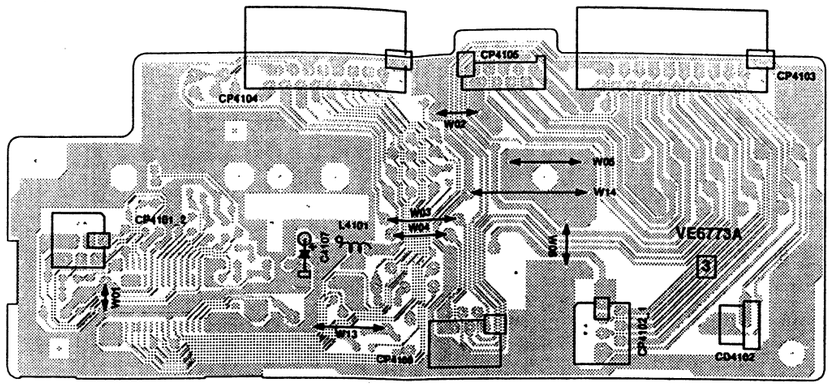


PRINTED CIRCUIT BOARDS
SYSCON
SOLDER SIDE

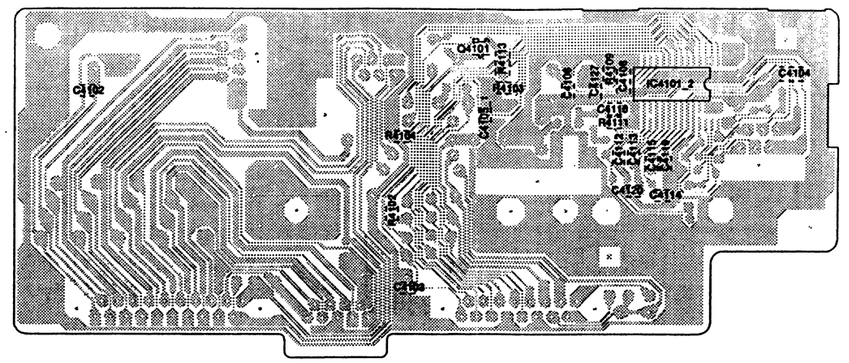


PRINTED CIRCUIT BOARDS
HEAD AMP

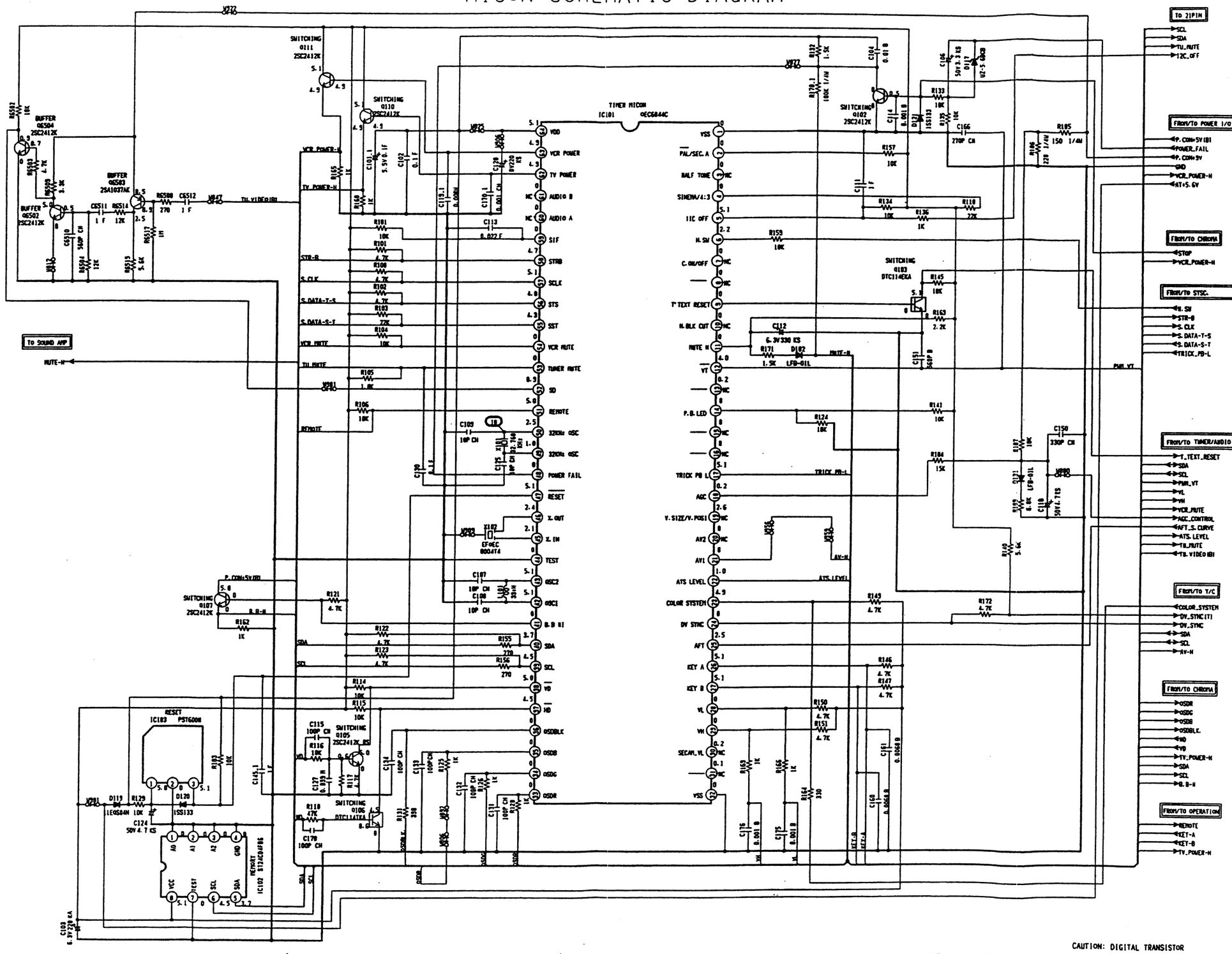
COMPONENT SIDE



SOLDER SIDE



MICON SCHEMATIC DIAGRAM



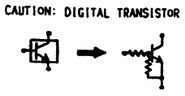
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N"UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N"UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

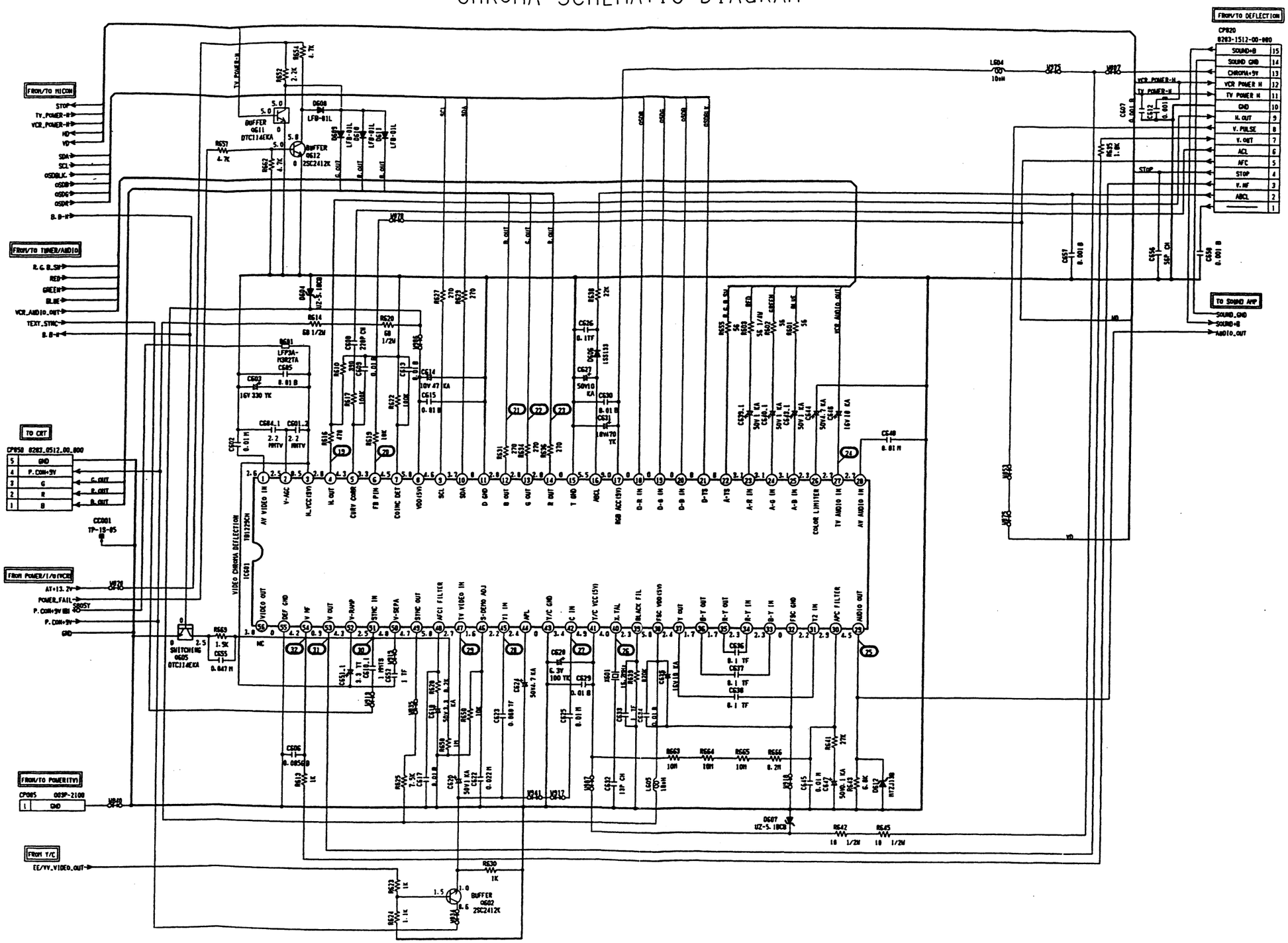
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION: DIGITAL TRANSISTOR



3-7248

CHROMA SCHEMATIC DIAGRAM



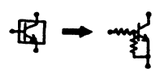
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

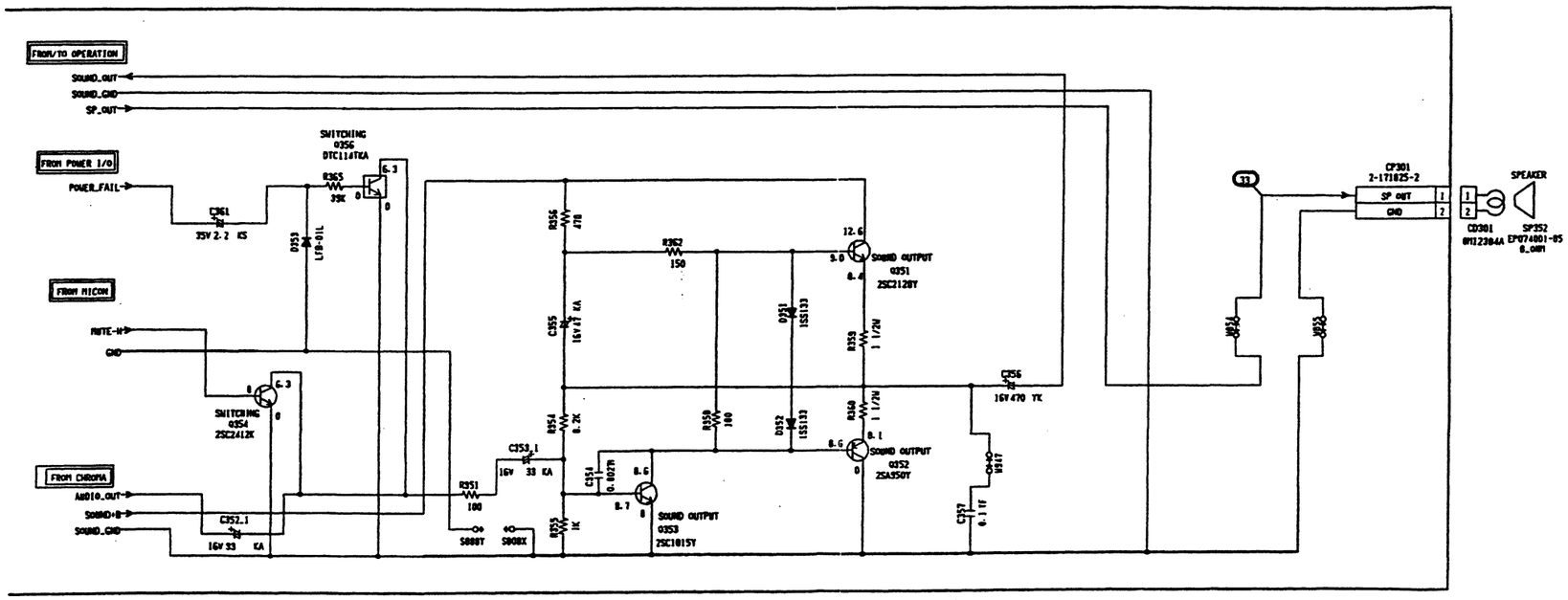
CAUTION: DIGITAL TRANSISTOR



PCB810
VH7127

3-7249

SOUND AMP SCHEMATIC DIAGRAM



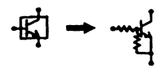
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

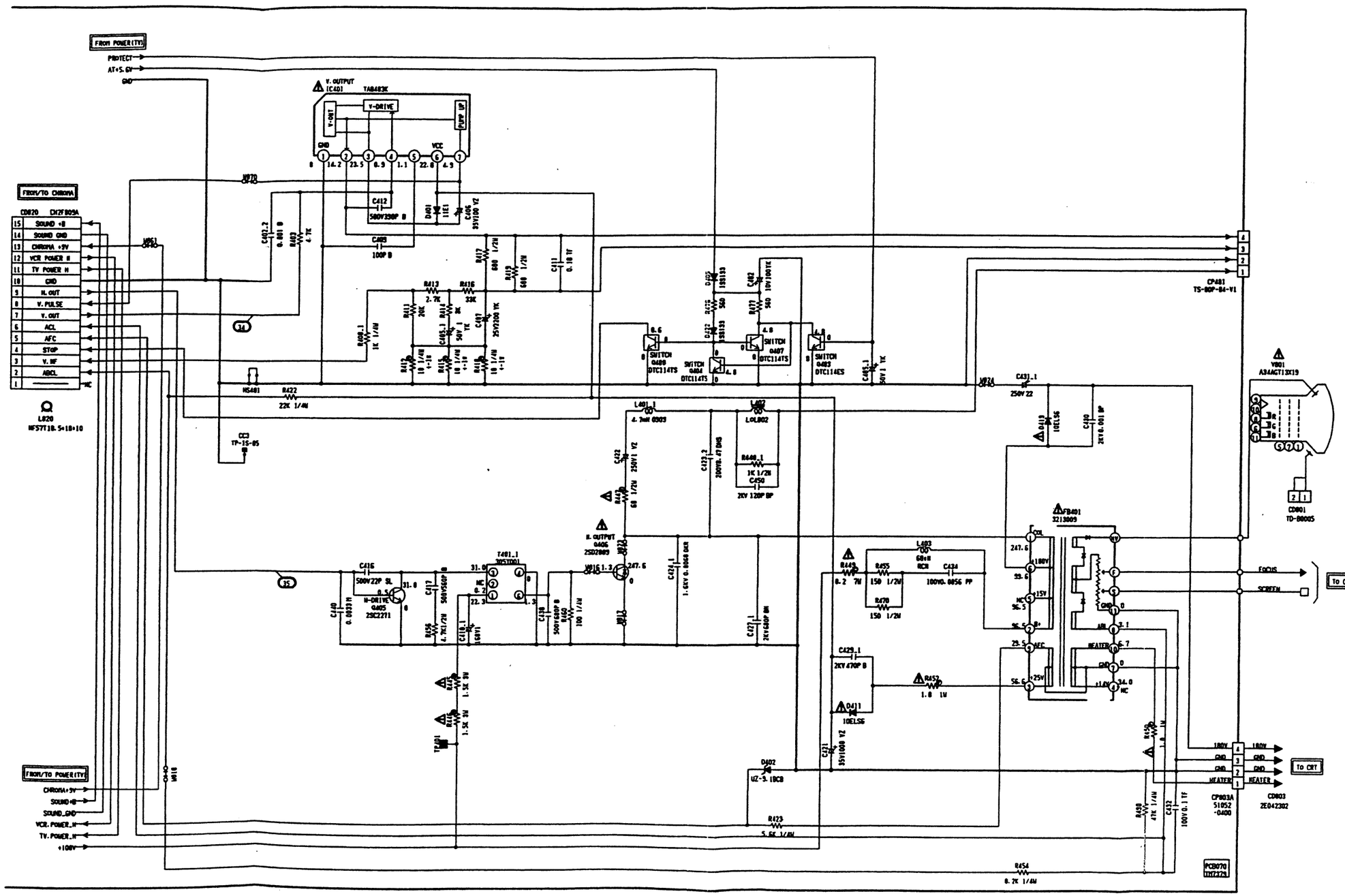
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION: DIGITAL TRANSISTOR



DEFLECTION SCHEMATIC DIAGRAM



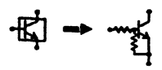
NOTE. THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AU POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

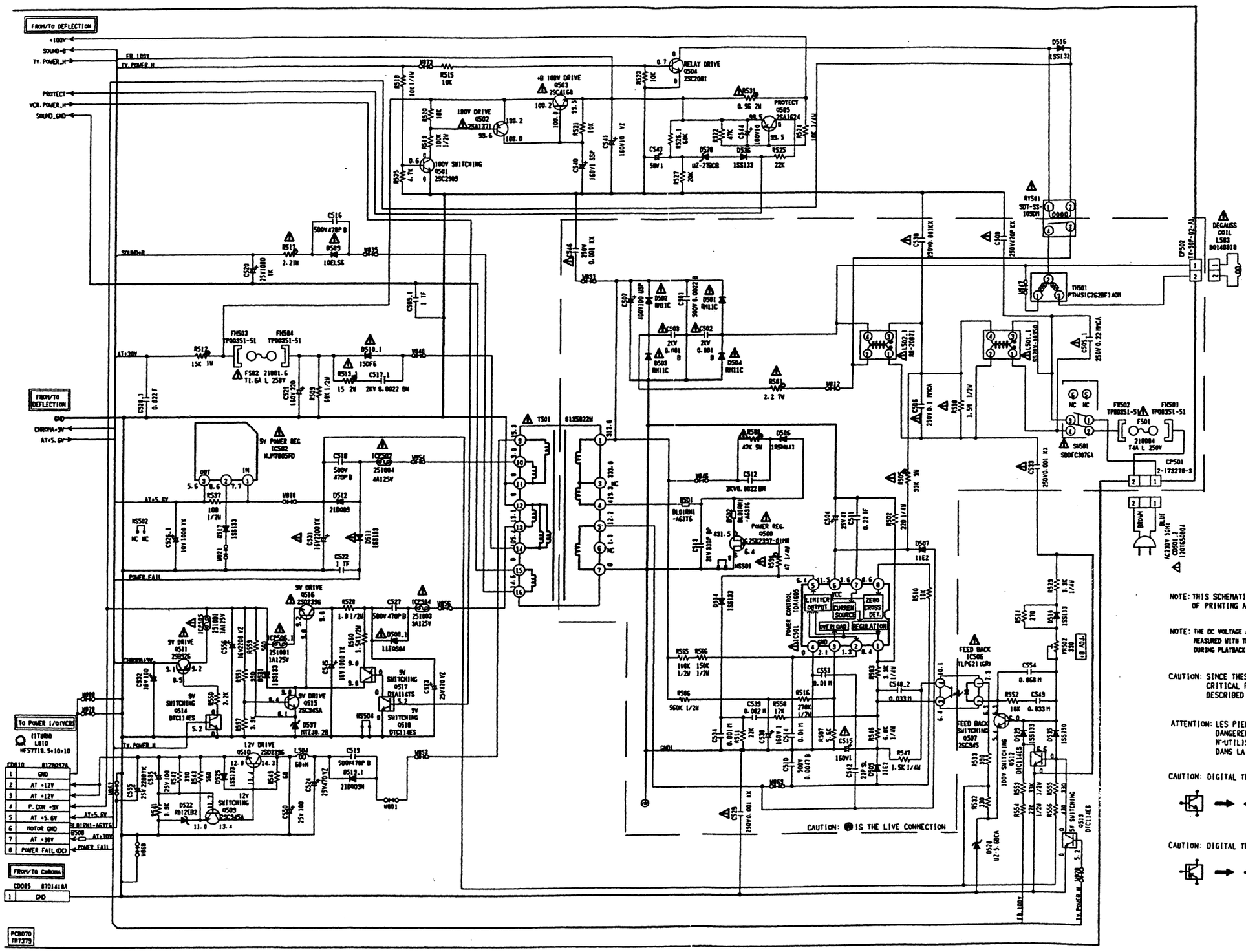
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

CAUTION: DIGITAL TRANSISTOR

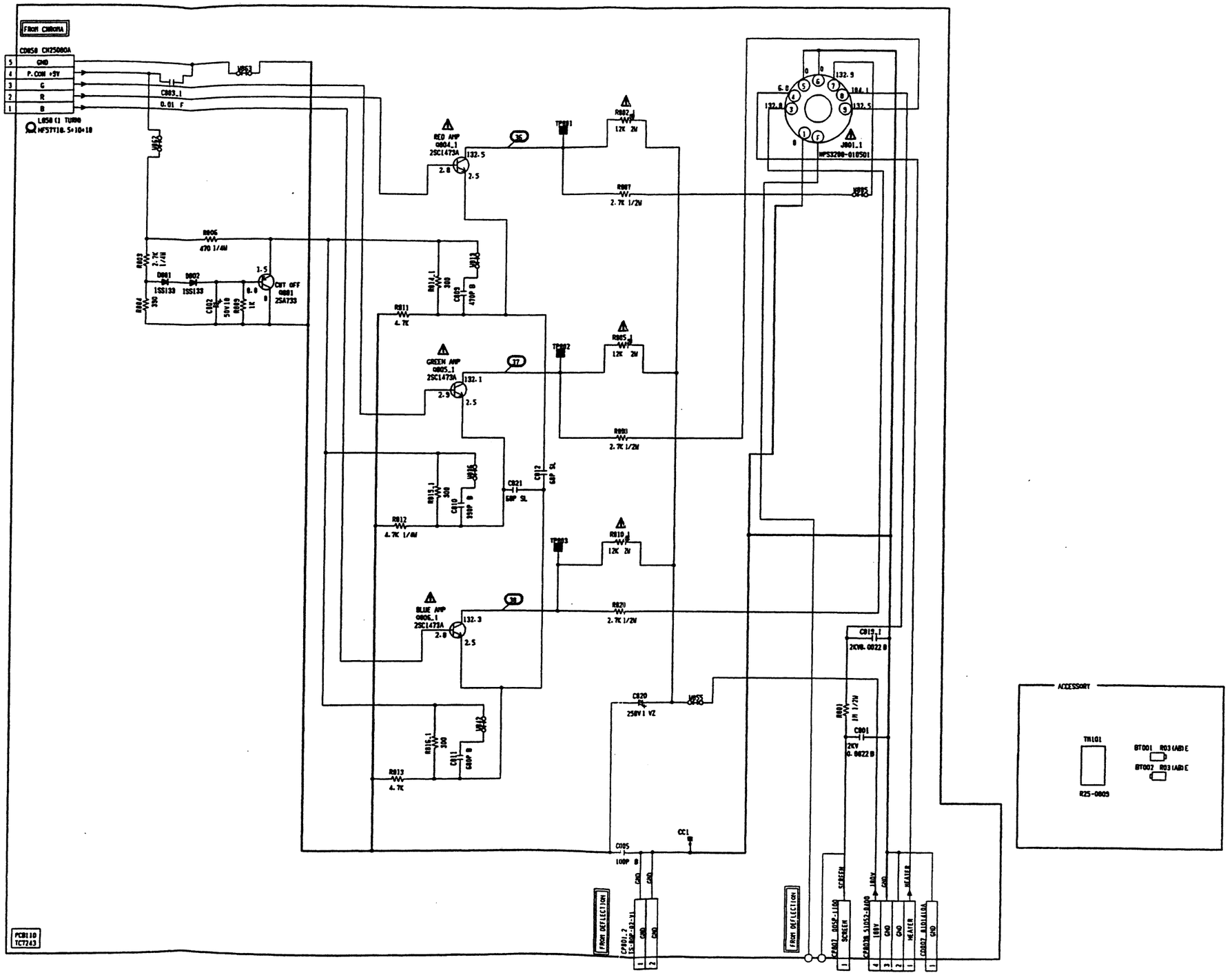


3-7252

POWER(TV) SCHEMATIC DIAGRAM



CRT SCHEMATIC DIAGRAM



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

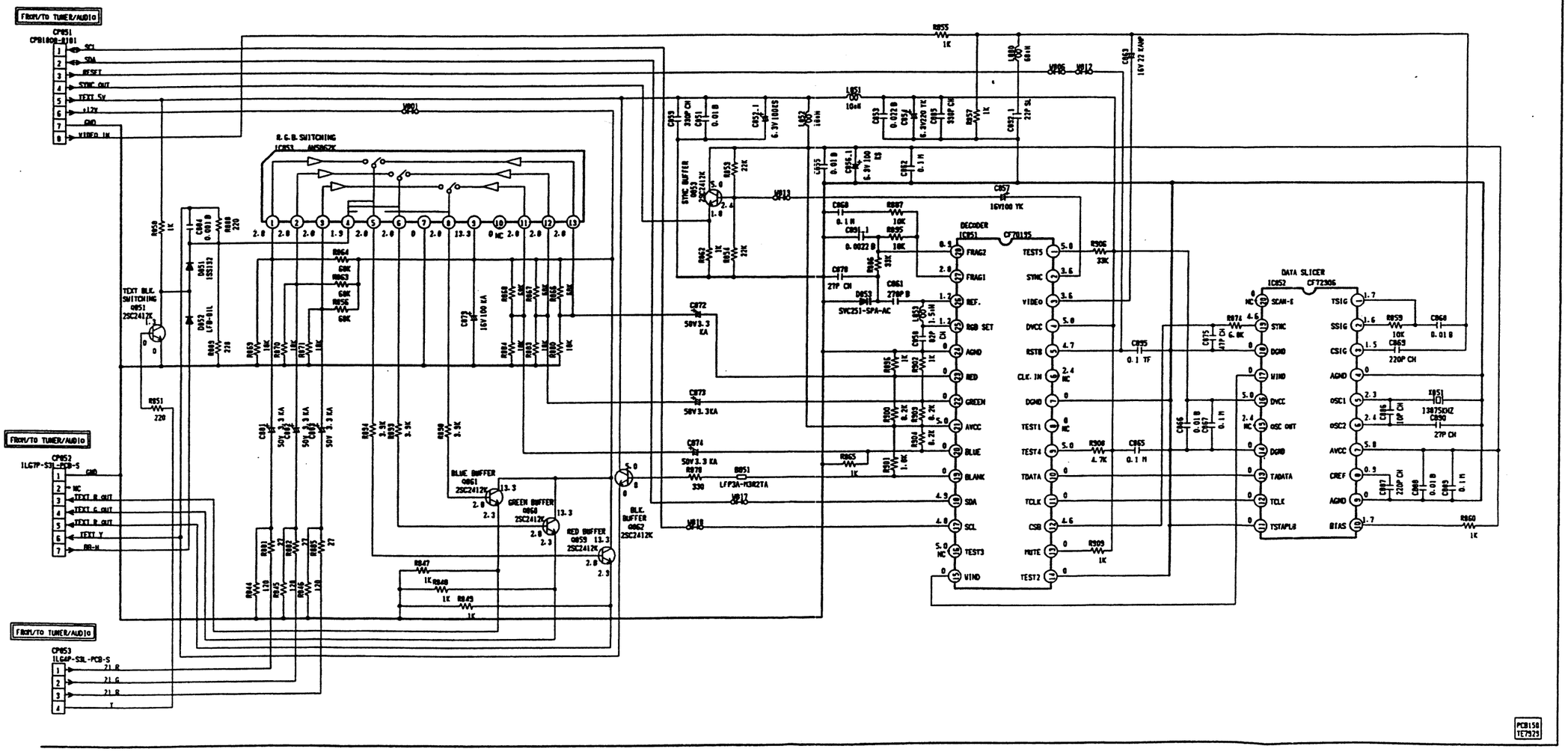
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

3-7253

T' TEXT SCHEMATIC DIAGRAM

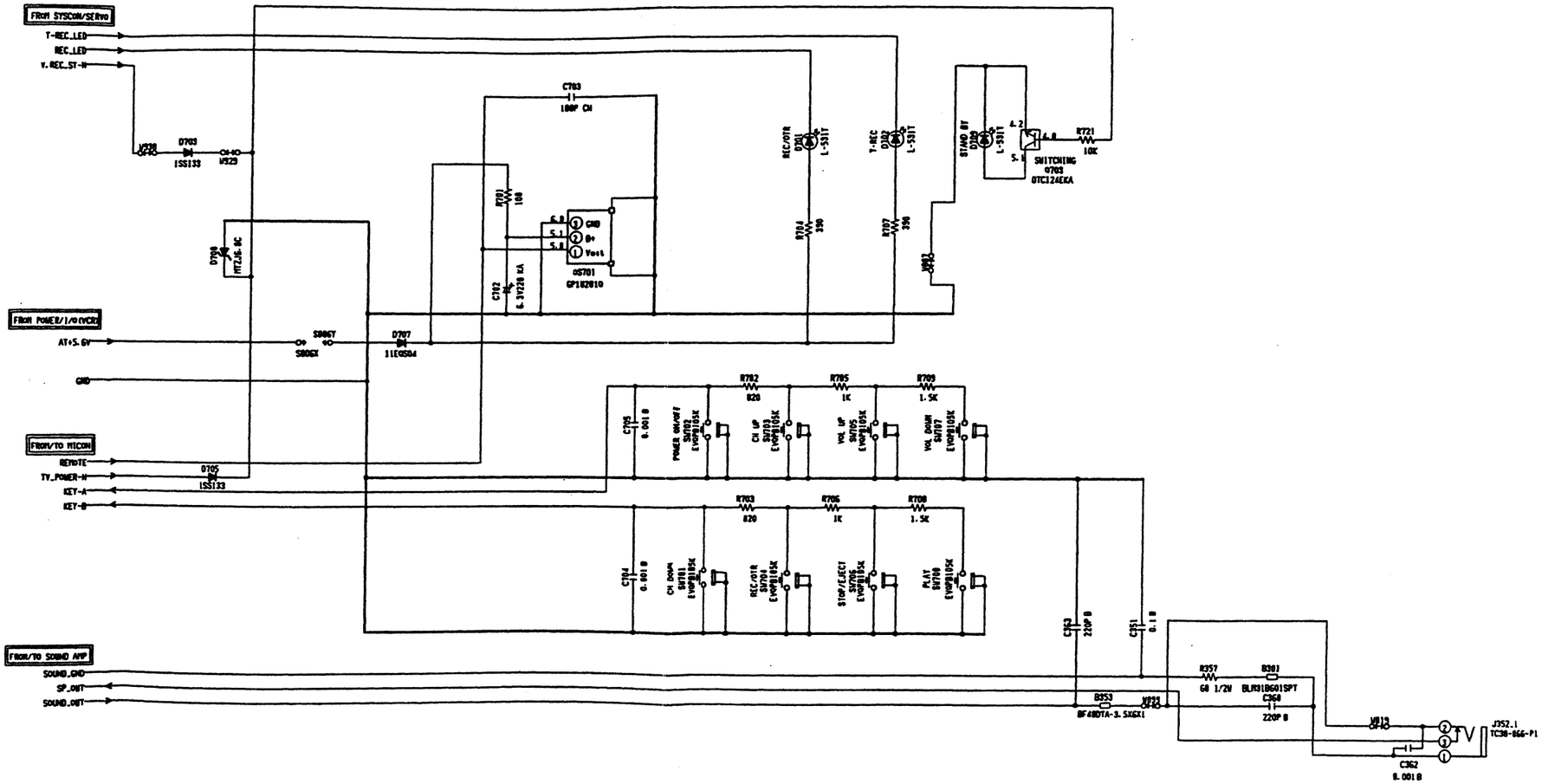


CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

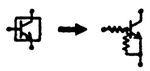
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

OPERATION SCHEMATIC DIAGRAM



CAUTION: DIGITAL TRANSISTOR



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

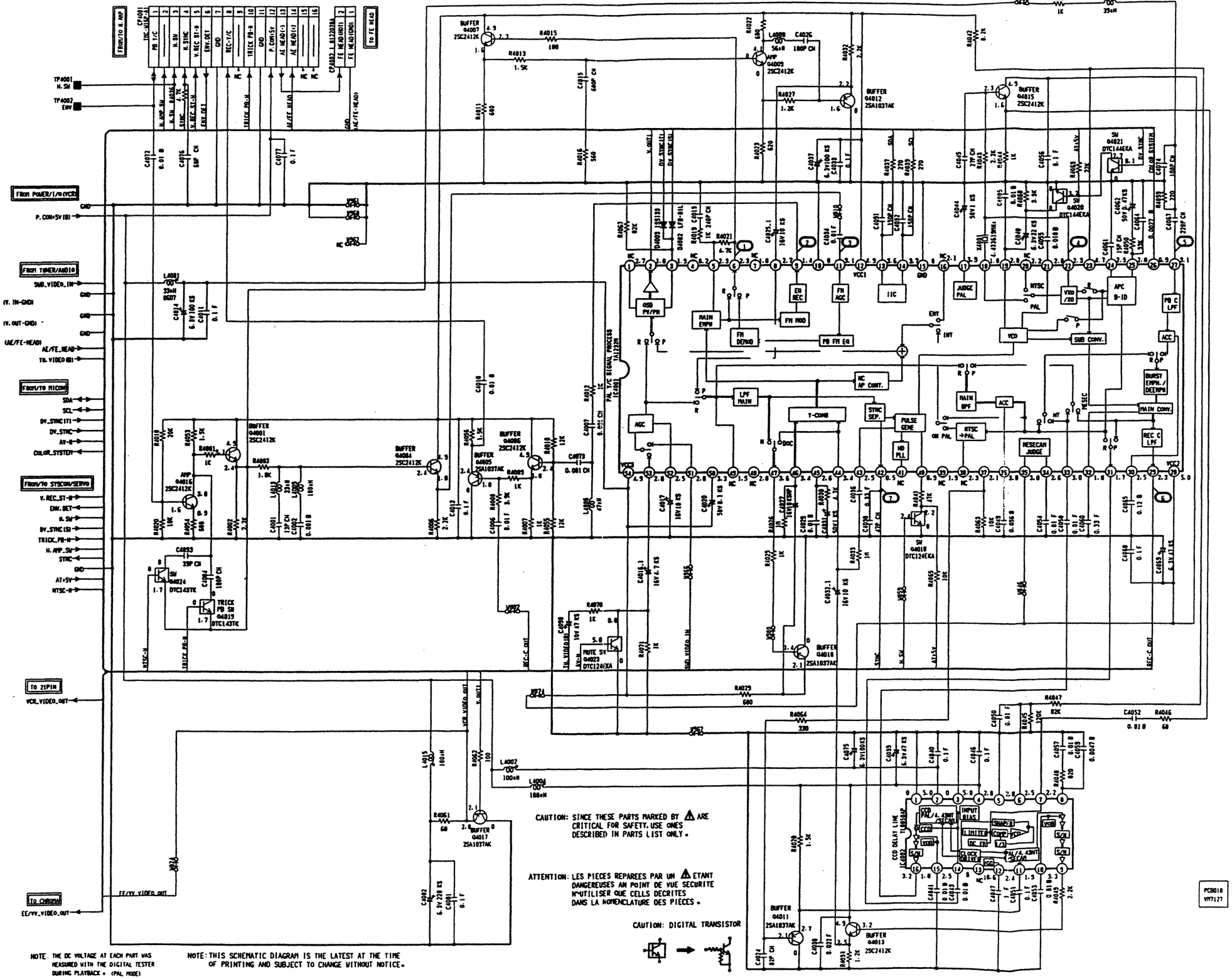
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

PCB010
VM7127

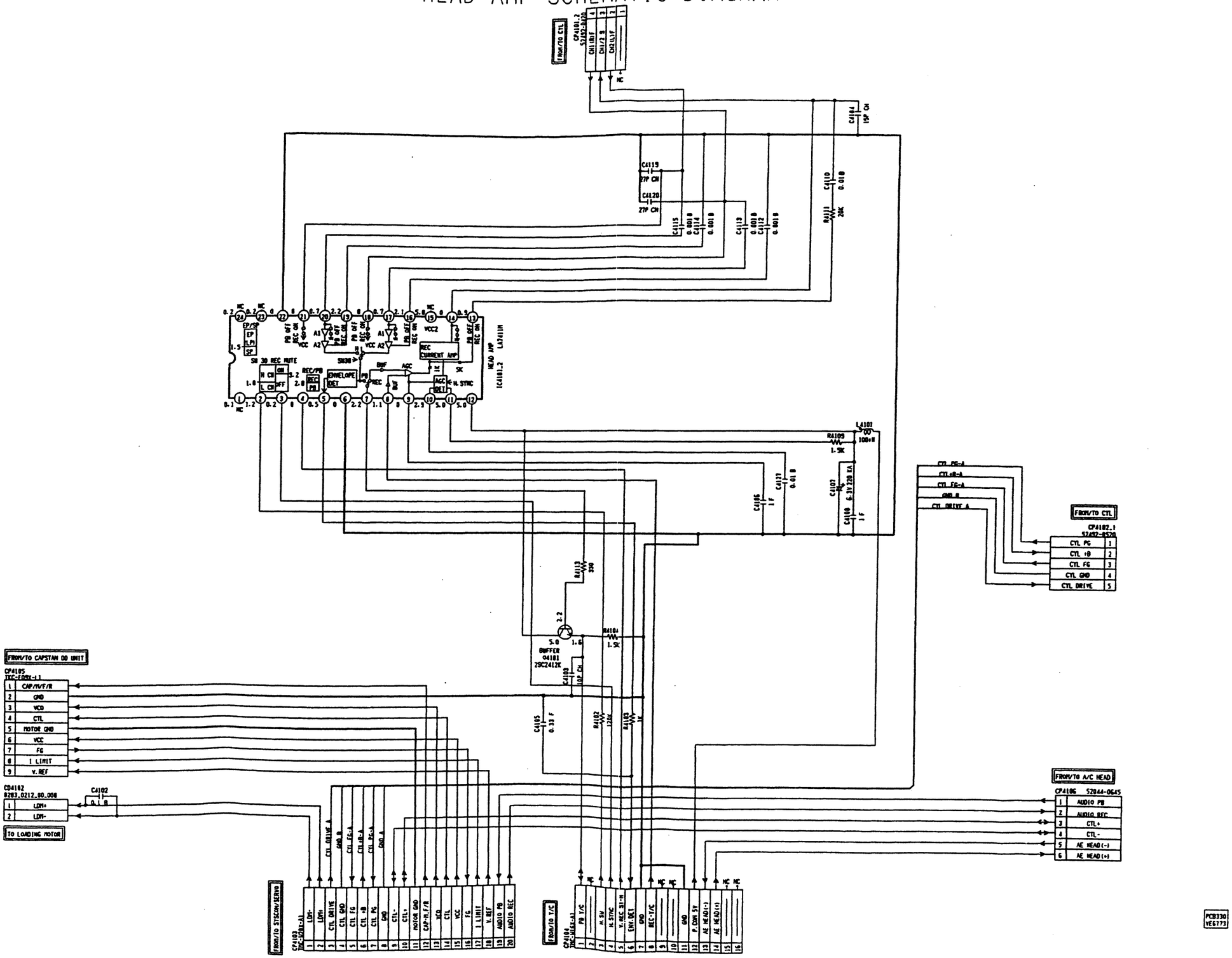
3-7251

Y/C SCHEMATIC DIAGRAM



3-7231

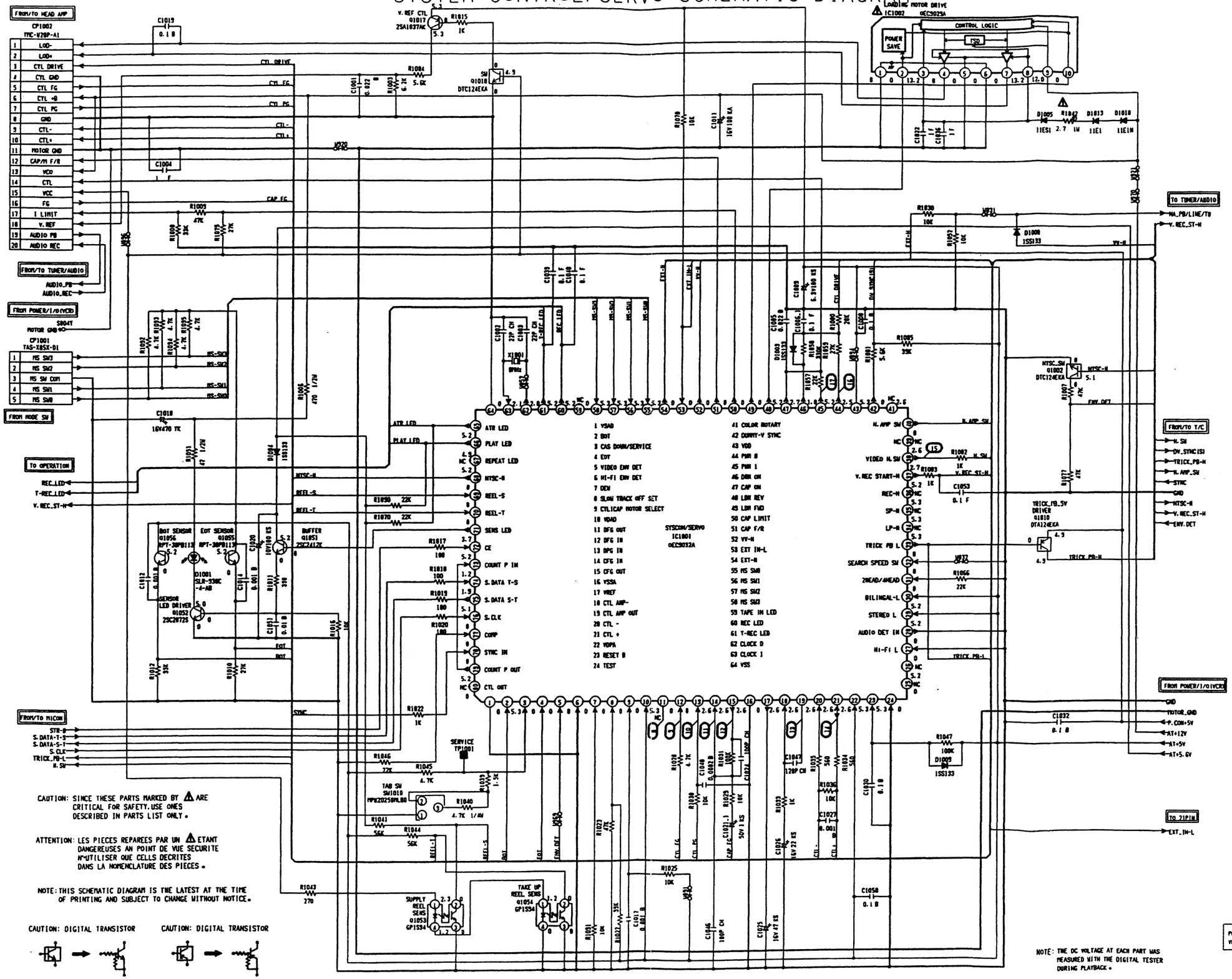
HEAD AMP SCHEMATIC DIAGRAM



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

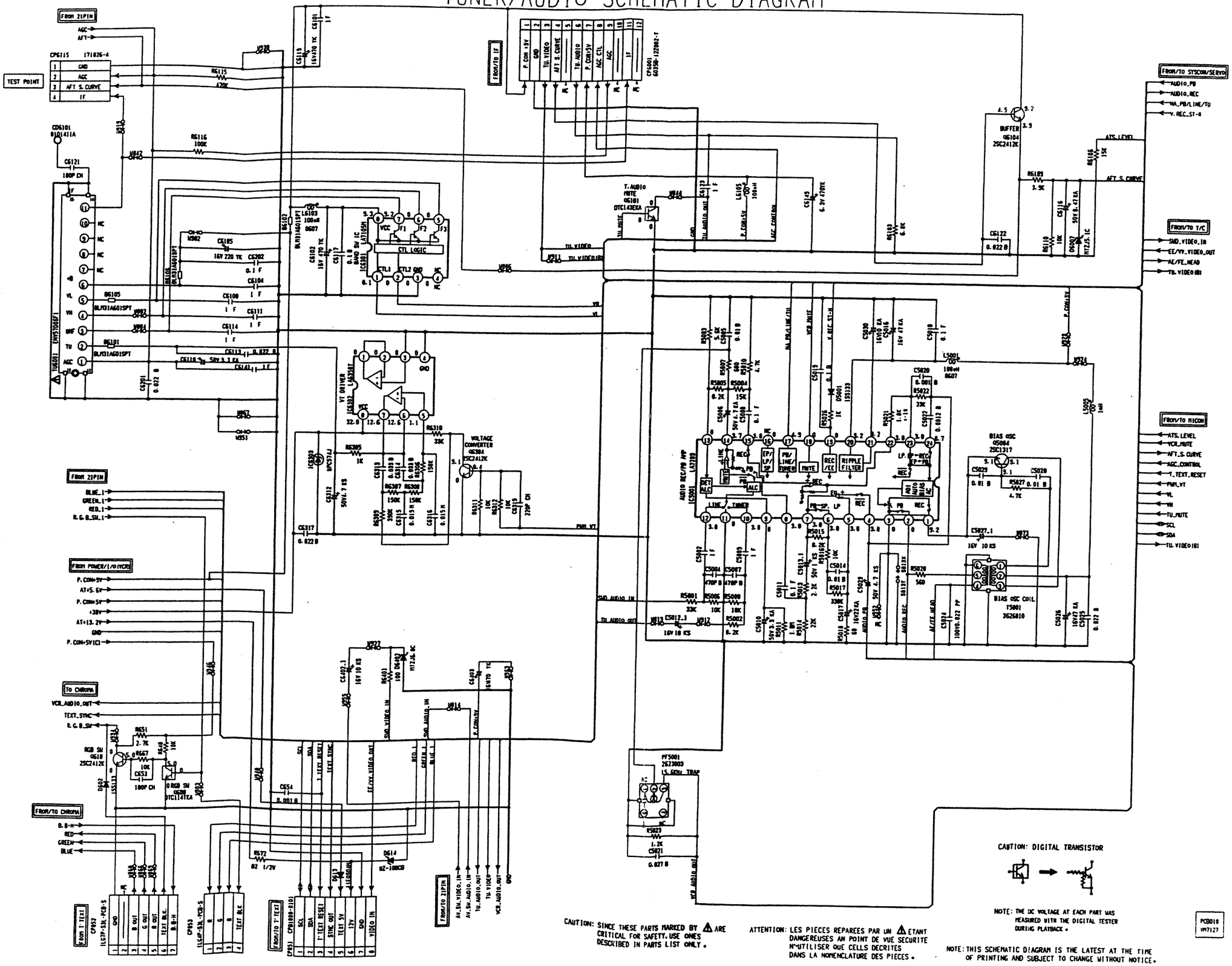
NOTE THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

SYSTEM CONTROL/SERVO SCHEMATIC DIAGRAM



3-7246

TUNER/AUDIO SCHEMATIC DIAGRAM

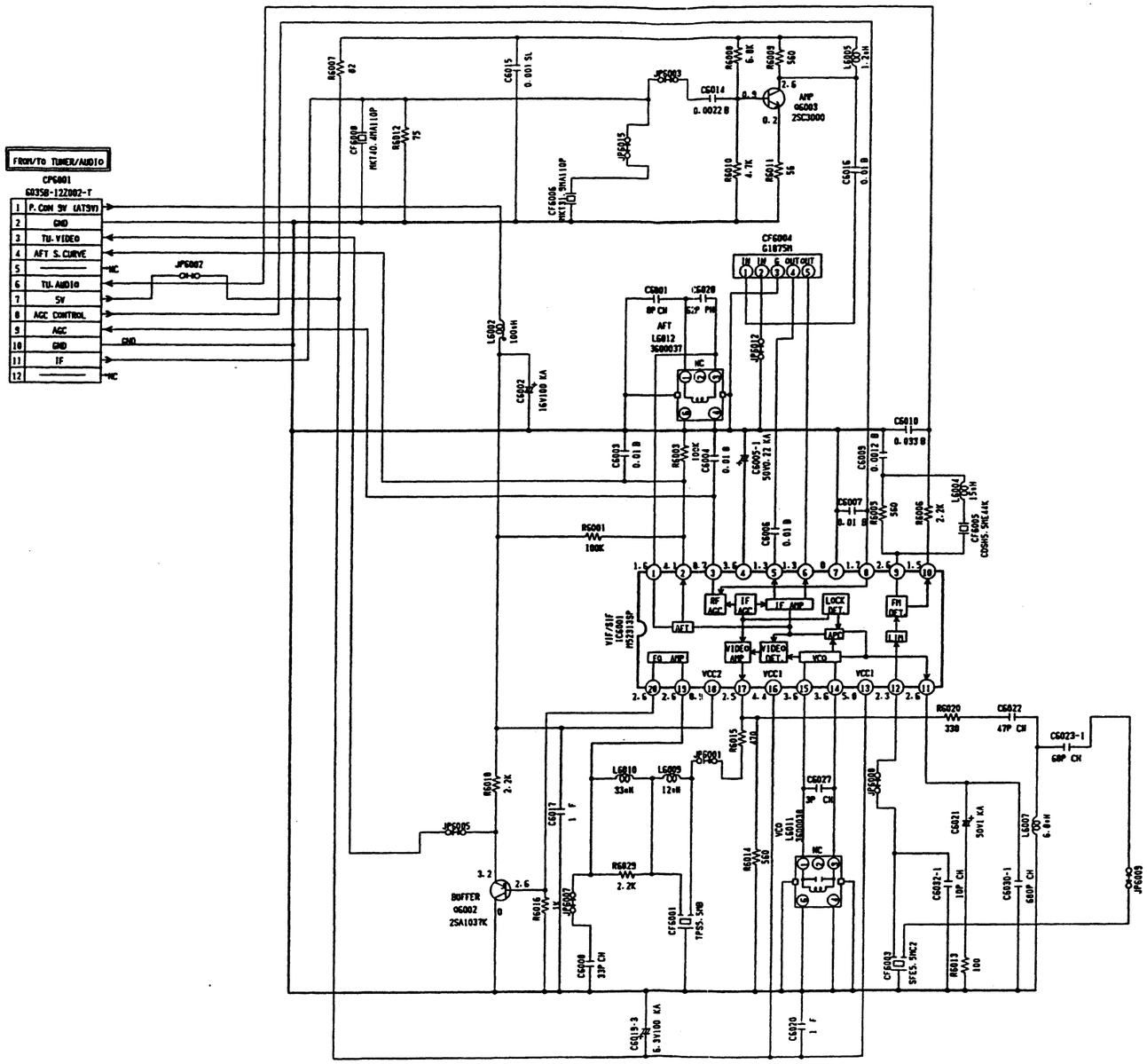


CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

IF SCHEMATIC DIAGRAM



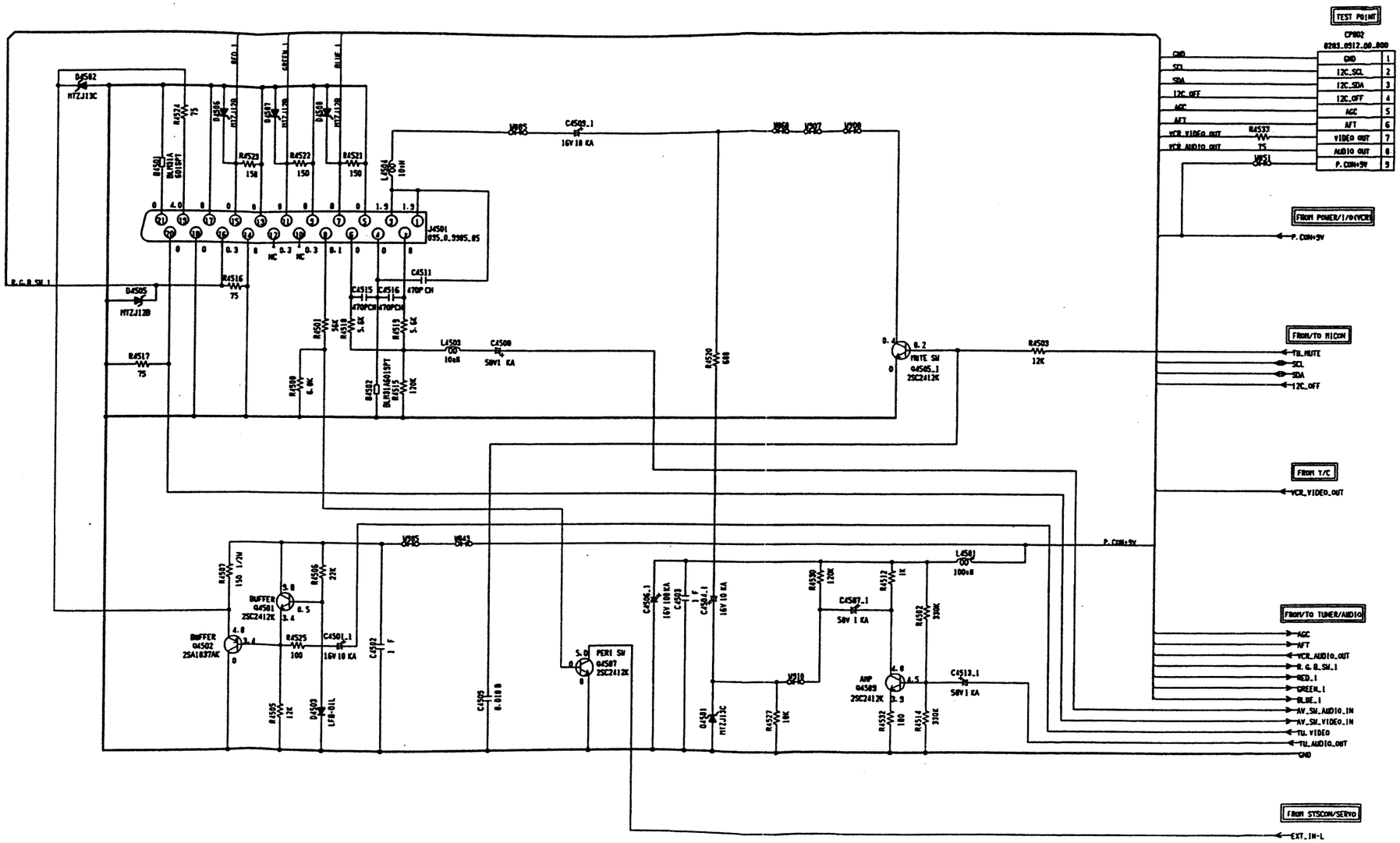
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

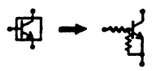
PCB350
VE4666

VIDE-V24938 / Druck21

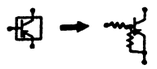
21PIN SCHEMATIC DIAGRAM



CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR



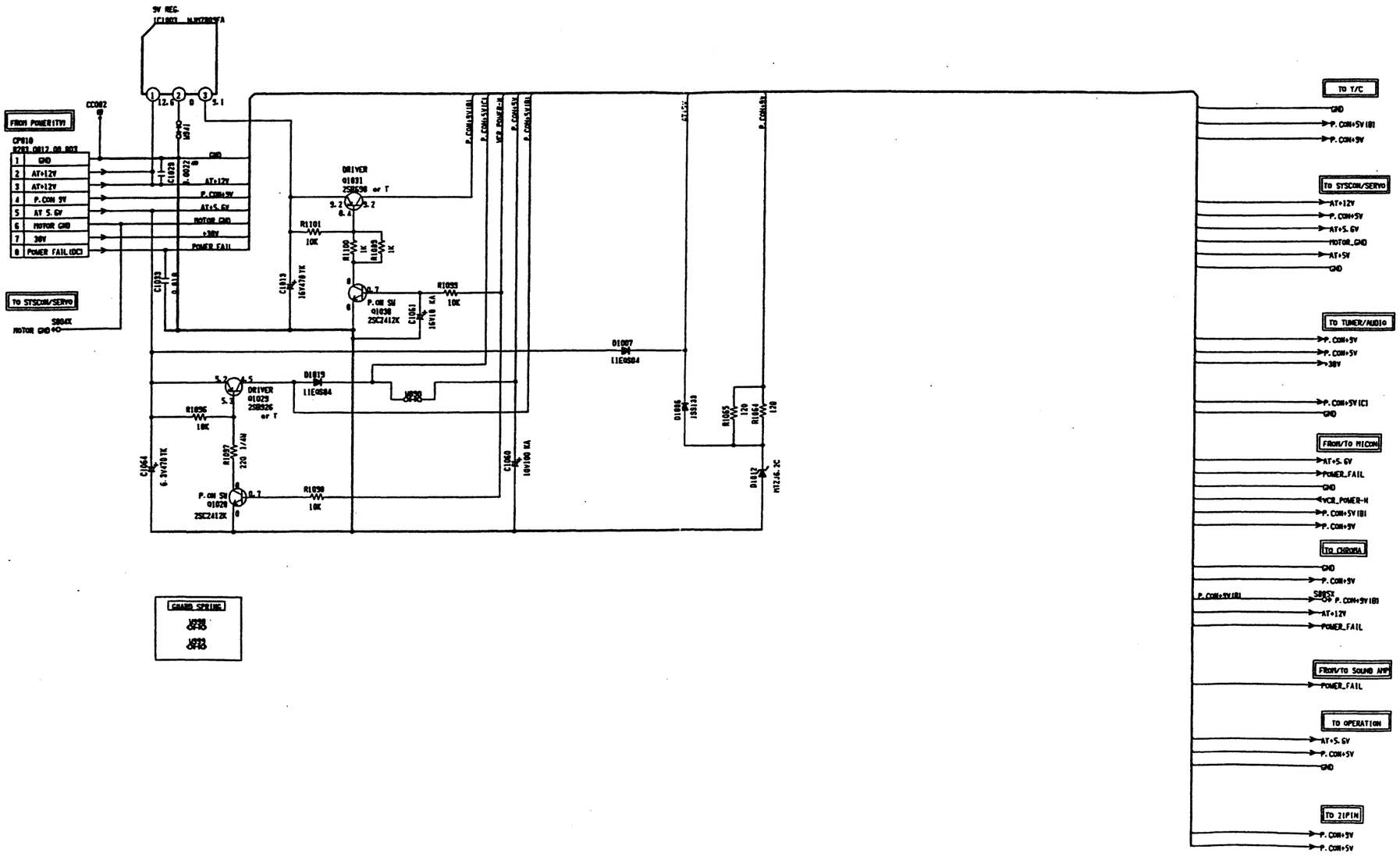
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

POWER/IN/OUT(VCR) SCHEMATIC DIAGRAM

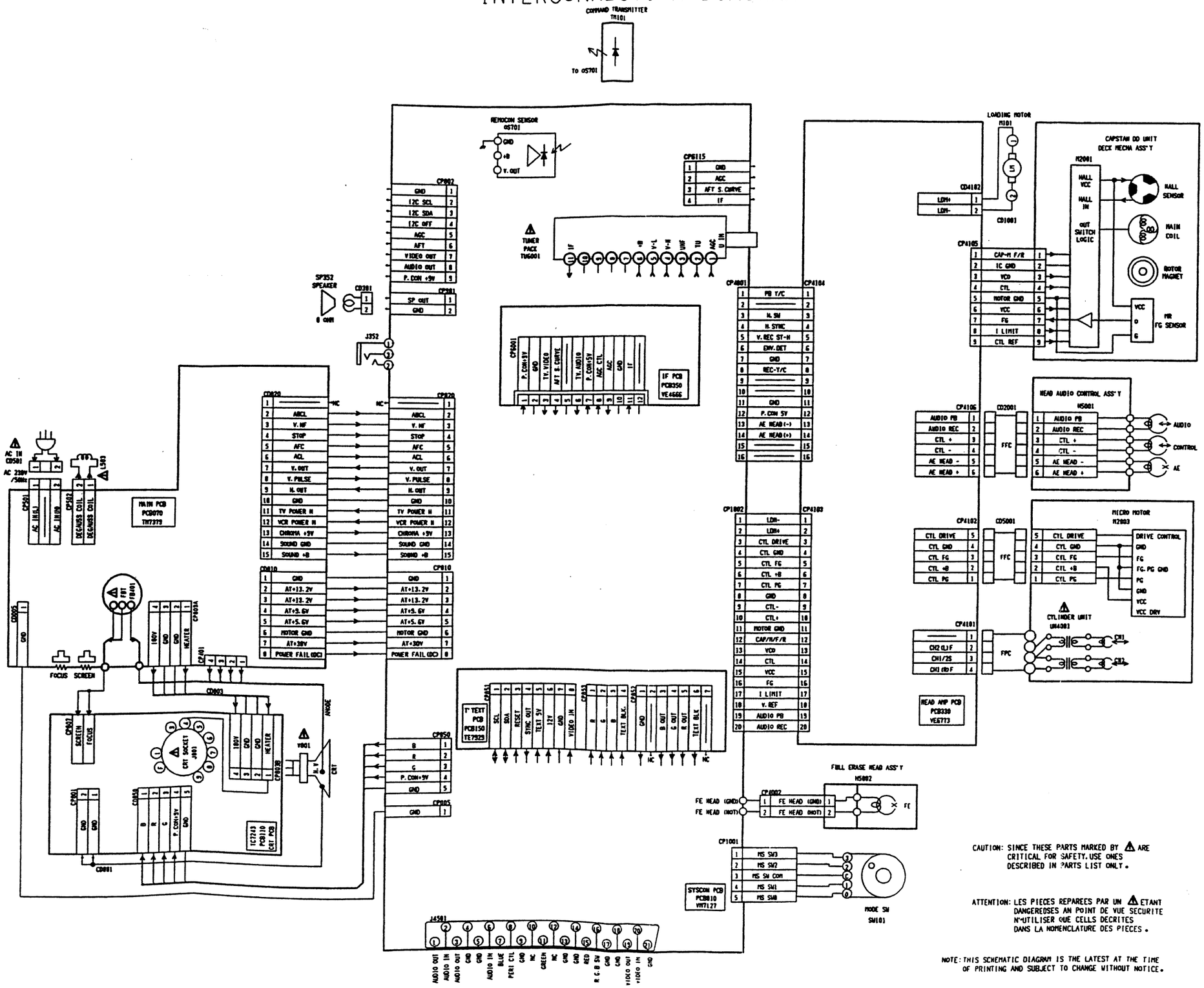


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

PCB010
VM7127

INTERCONNECTION DIAGRAM



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

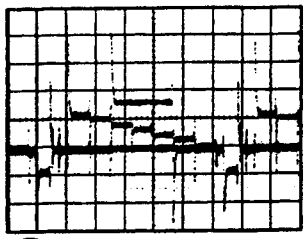
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREOSES AN POINT DE VUE SECURITE N"UTILISER OUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

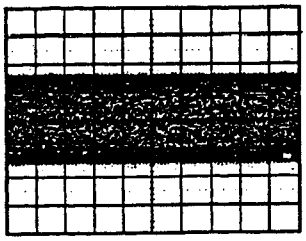
3-7245

WAVEFORMS

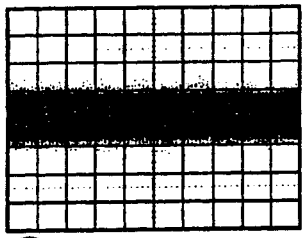
Y/C



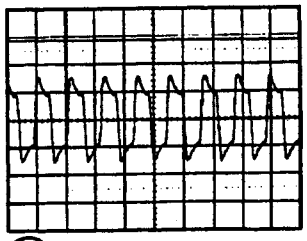
① REC
200mV. 10μs/div



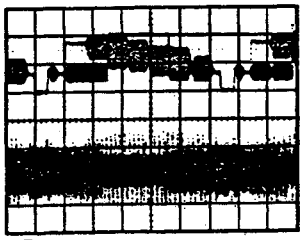
② REC
200mV. 0.5ms/div



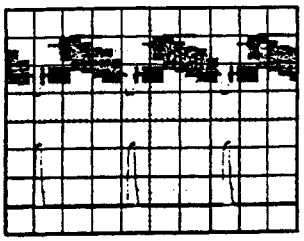
③ PB
200mV. 0.5ms/div



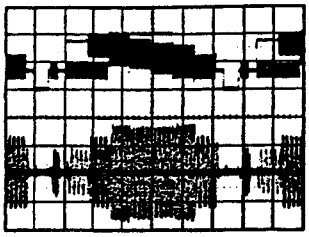
④ REC
200mV. 0.2μs/div



⑤ PB
50mV 10μs/div

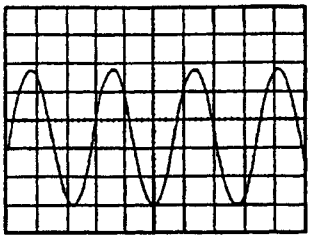


⑥ REC
100mV. 10μs/div

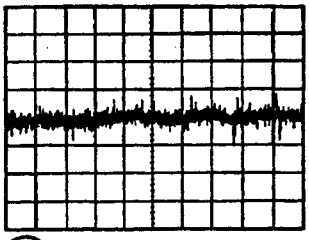


⑦ REC
2V. 20μs/div

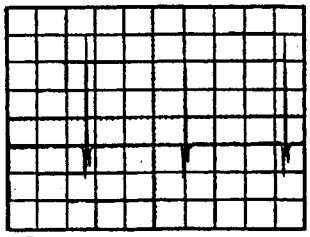
SYSCON/SERVO



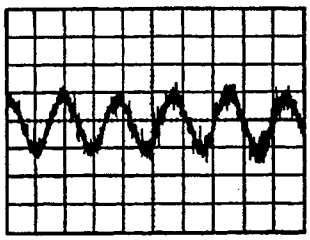
⑧ REC/PB
0.5V. 0.5ms/div



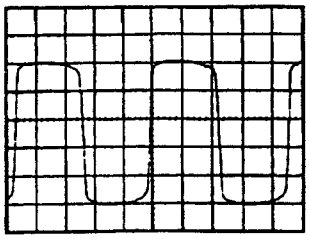
⑨ REC/PB
20mV. 0.5ms/div



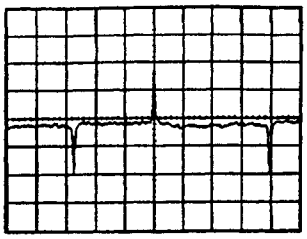
⑩ REC/PB
200mV. 10ms/div



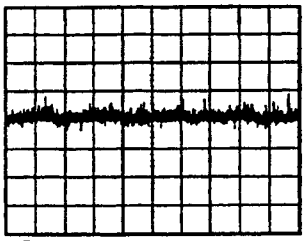
⑪ REC/PB
20mV. 0.5ms/div



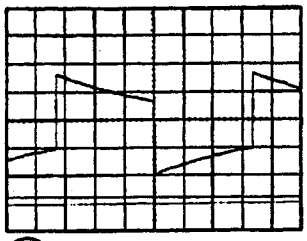
⑫ REC/PB
0.5V 0.2ms/div



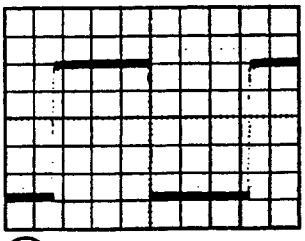
⑬ REC/PB
0.5V 5ms/div



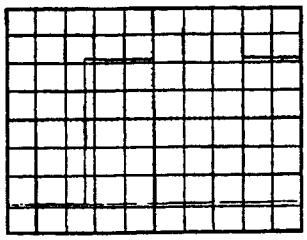
⑭ REC/PB
20mV 5ms/div



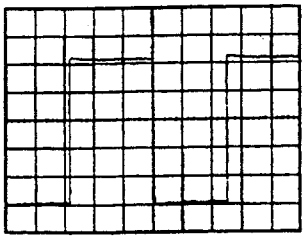
⑭ REC/PB
2V 5ms/div



⑮ REC/PB
0.5V 5ms/div



⑯ REC/PB
1V 2μs/div

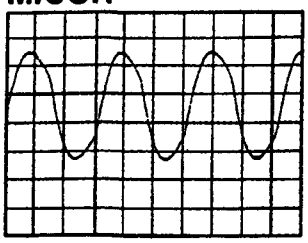


⑰ REC/PB
1V 2μs/div

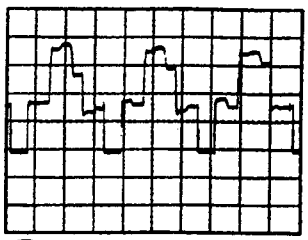
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

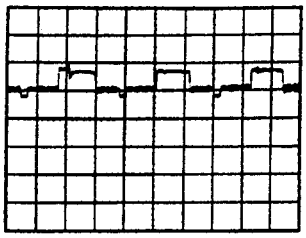
MICON



⑱ 1V 10μs/div

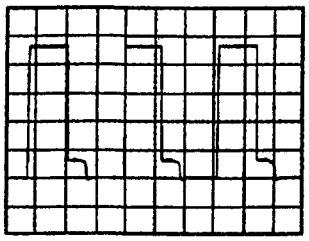


㉒ 1V 20μs/div color

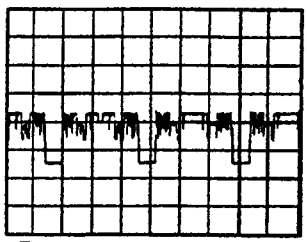


㉗ 1V 20μs/div

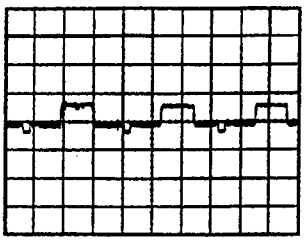
CHROMA



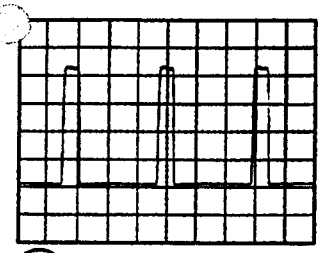
⑲ 1V 20μs/div



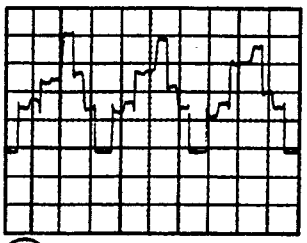
㉓ 2V 20μs/div



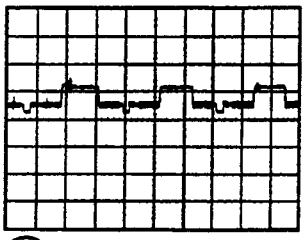
㉘ 1V 20μs/div



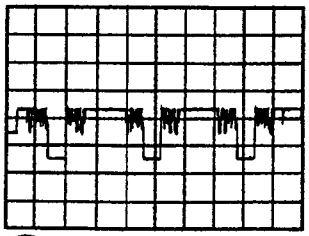
⑳ 2V 20μs/div



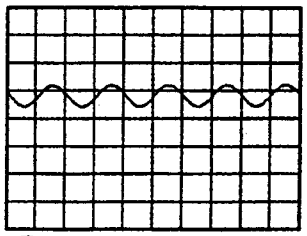
㉓ 1V 20μs/div color



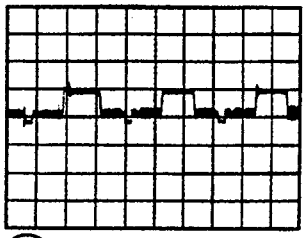
㉙ 1V 20μs/div



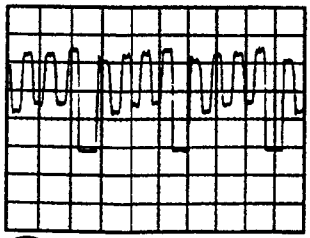
㉑ 2V 20μs/div



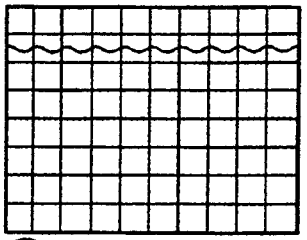
㉔ 1V 500μs/div



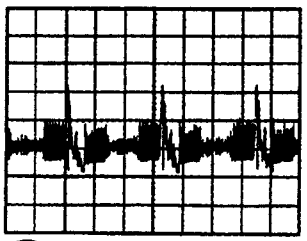
㉚ 1V 20μs/div



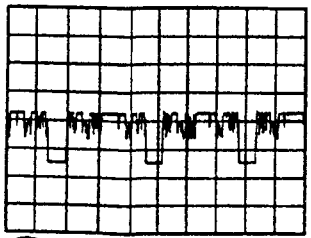
㉑ 1V 20μs/div color



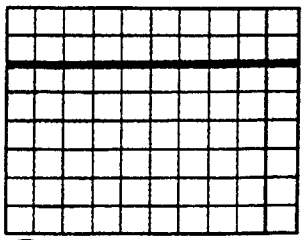
㉕ 1V 1ms/div



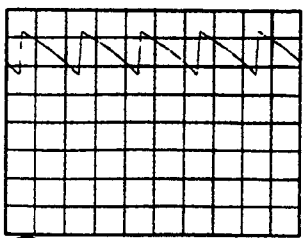
㉛ 1V 20μs/div



㉒ 2V 20μs/div



㉖ 1V 5μs/div

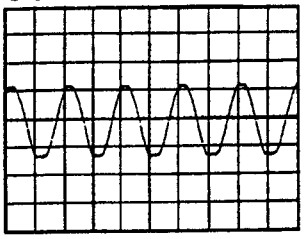


㉜ 1V 10ms/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

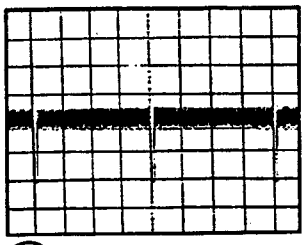
WAVEFORMS

SOUND AMP

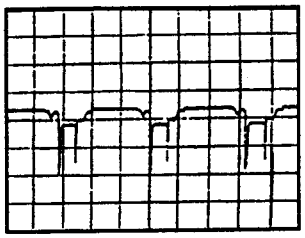


(33) 5V. 500μs/div

DEFLECTION

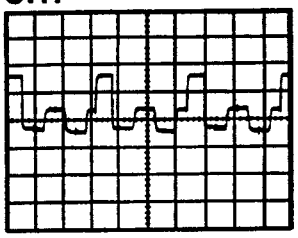


(34) 2V. 5ms/div

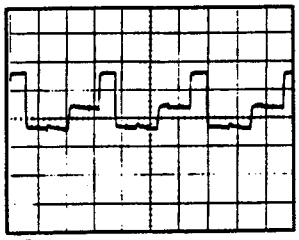


(35) 5V. 20μs/div

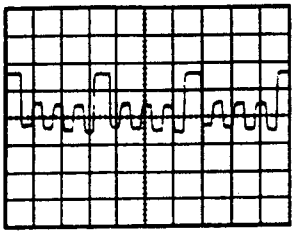
CRT



(36) 50V. 20μs/div

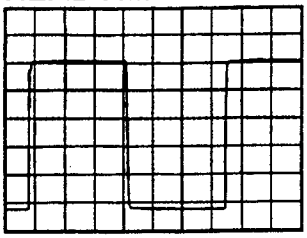


(37) 50V. 20μs/div

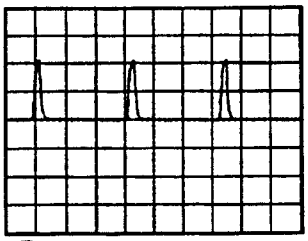


(38) 50V. 20μs/div

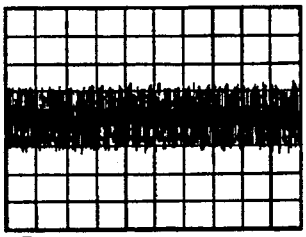
HEAD AMP



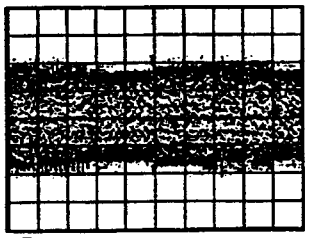
(39) REC/PB
500mV. 5ms/div



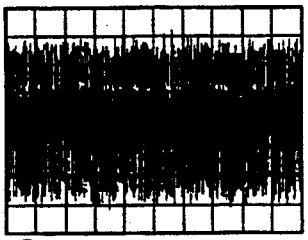
(40) REC/PB
1V. 20μs/div



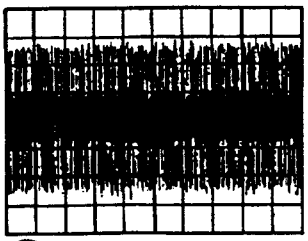
(41) PB
500V. 0.1s/div



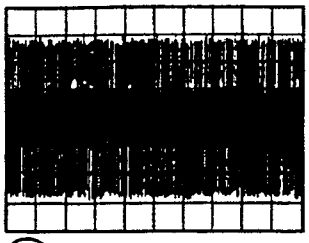
(42) REC
50mV. 10μs/div



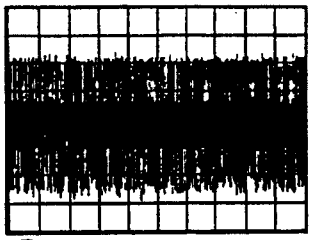
(43) REC/PB
10mV. 1s/div



(44) PB
50mV 50ms/div



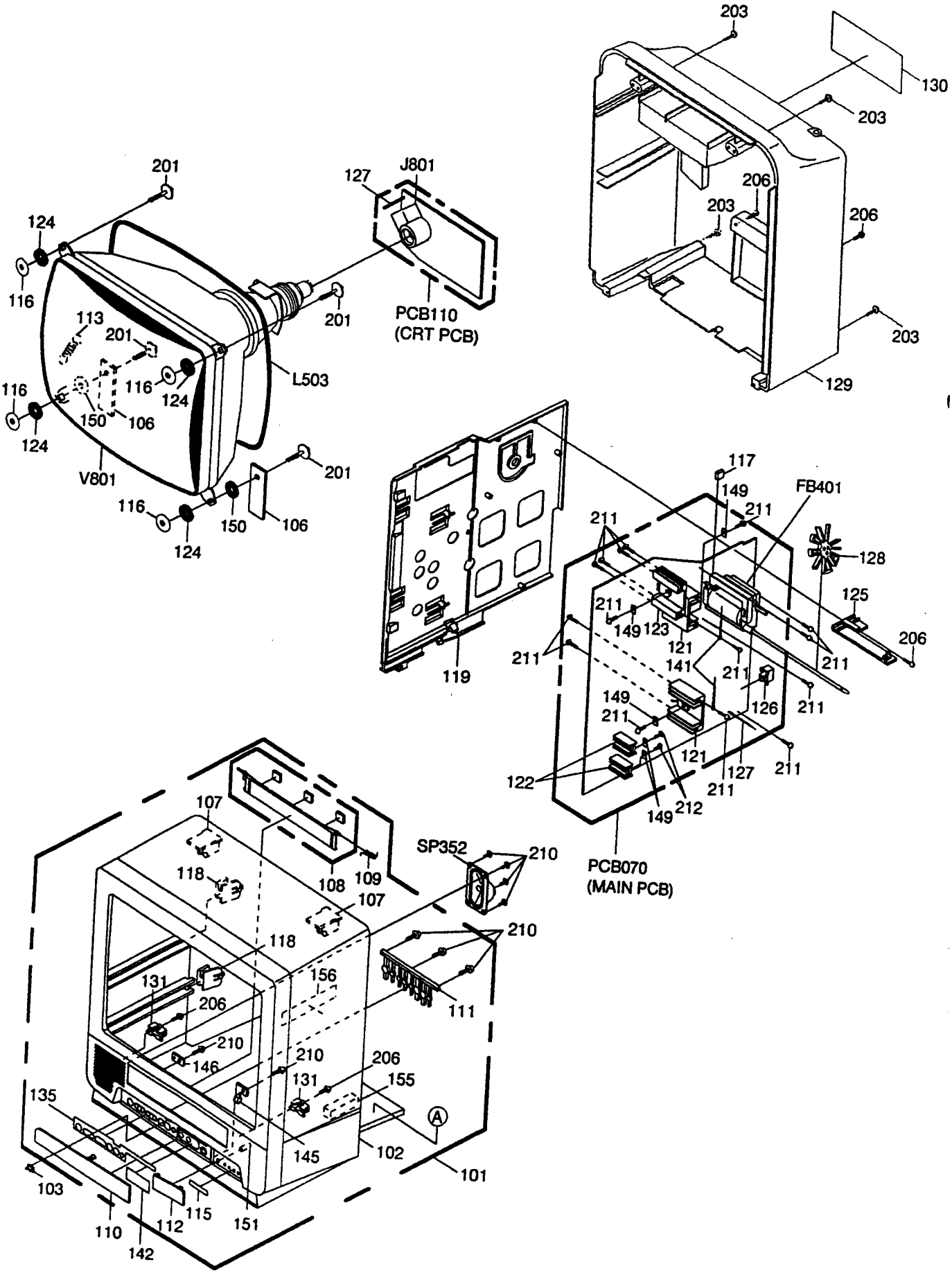
(45) REC
500mV. 50ms/div



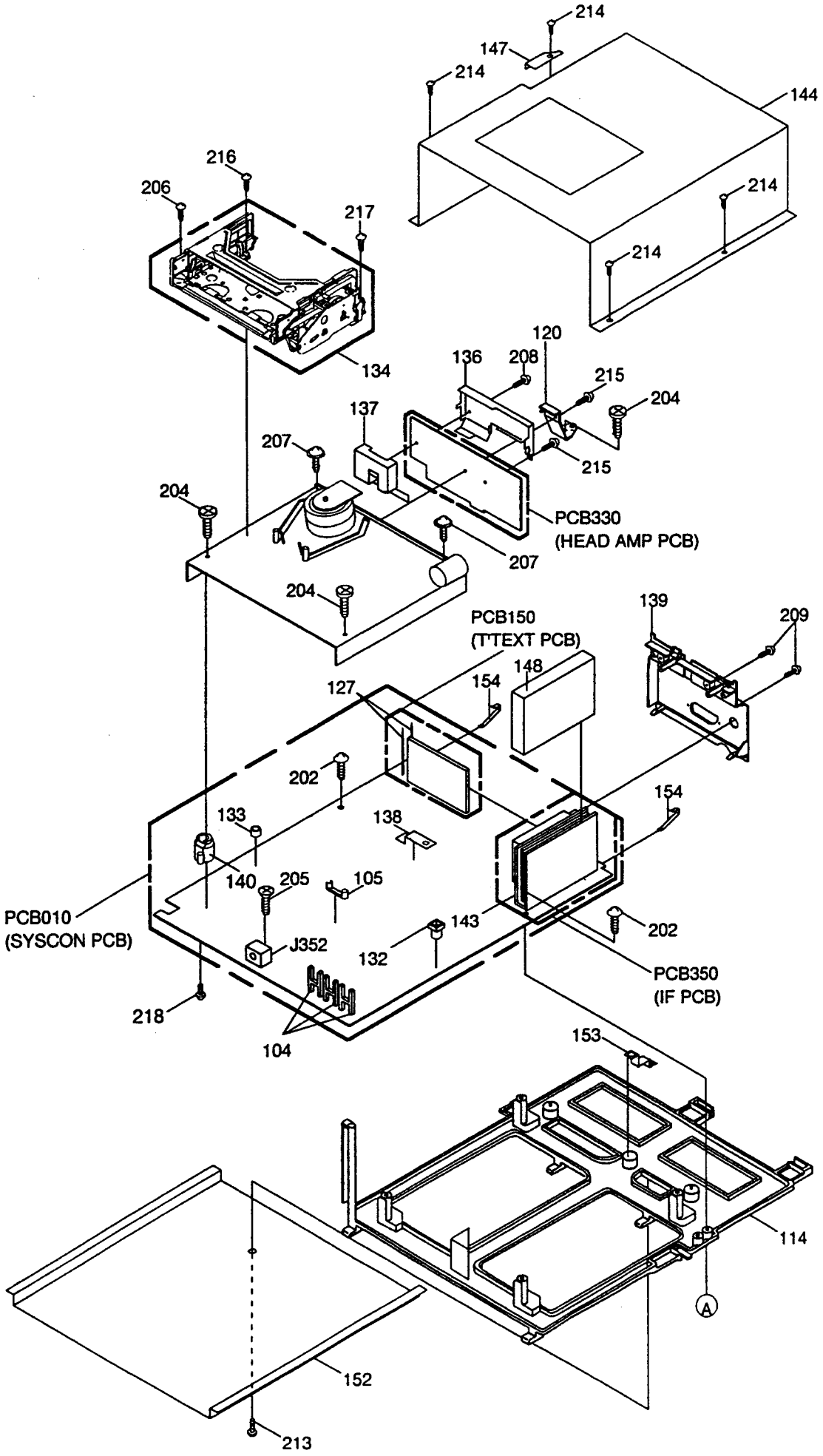
(46) PB
50mV. 0.1s/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

MECHANICAL EXPLODED VIEW



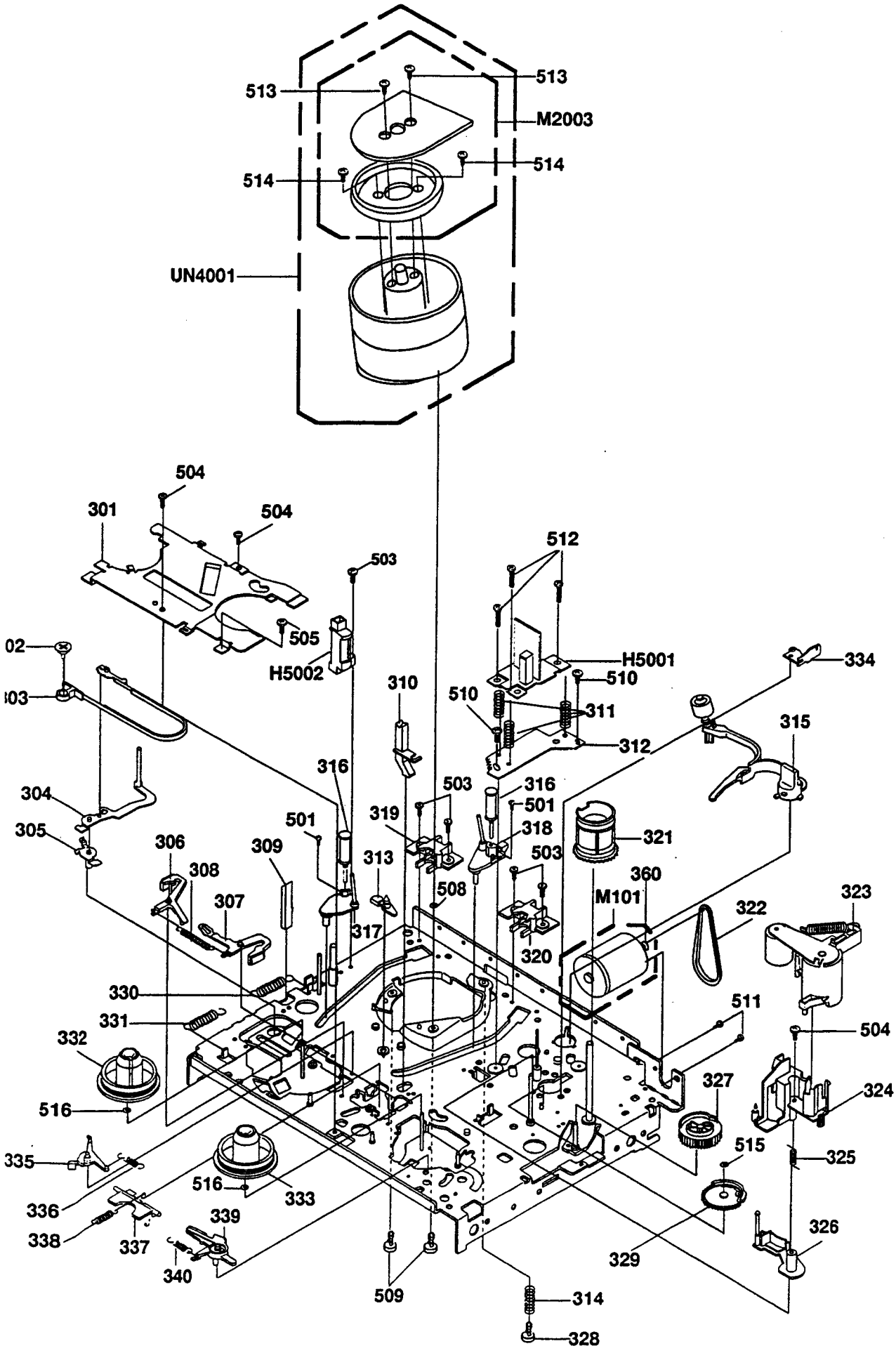
MECHANICAL EXPLODED VIEW



MECHANICAL REPLACEMENT PARTS LIST

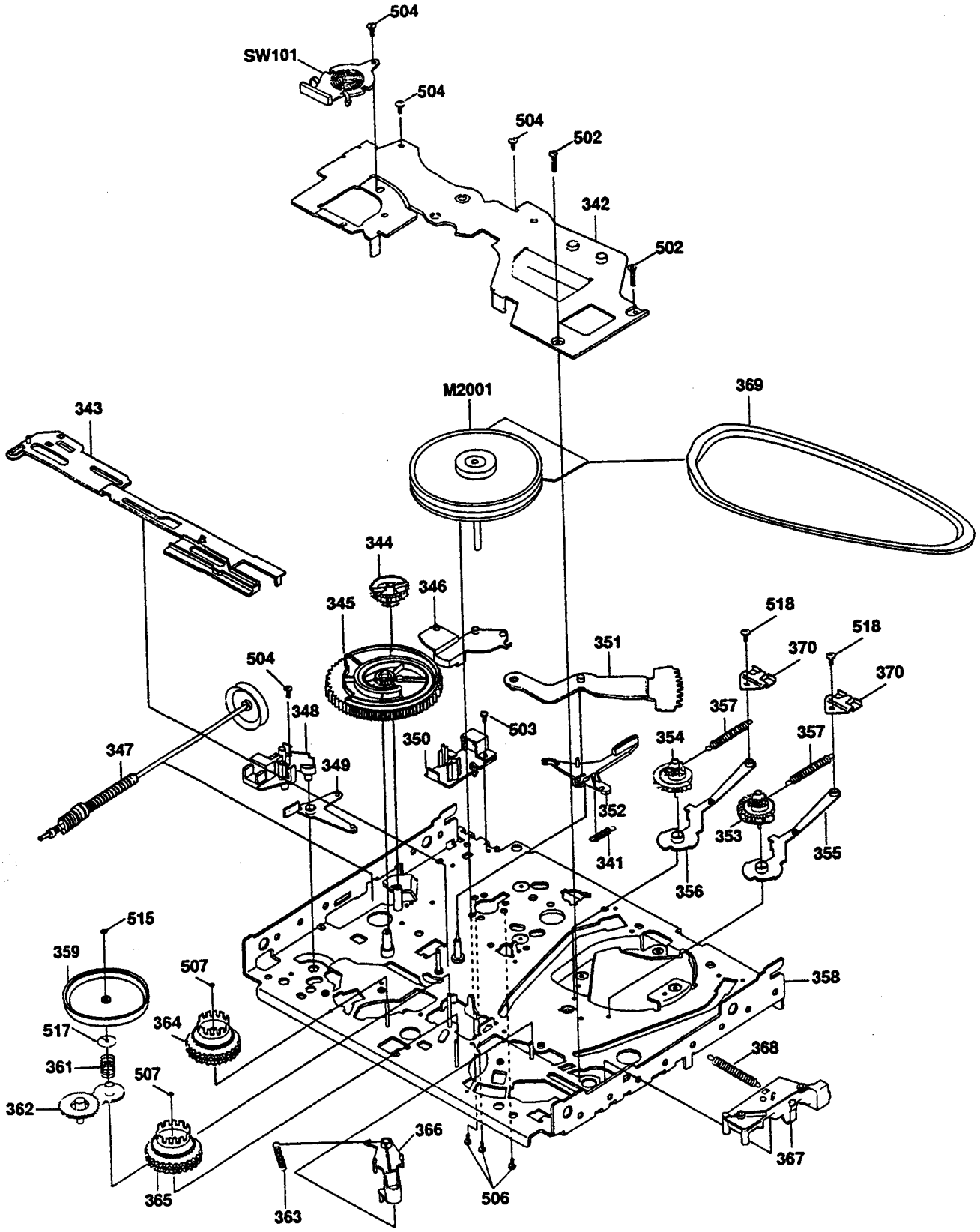
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
101	A51248A720	CABINET,FRONT ASS'Y	142	7230006582	SHEET,JACK
102	701WPB0147	CABINET,FRONT	143	752WSA0033	IF,SHIELD BOTTOM
103	890LA10000	NC LATCH	144	752WSA0101	PLATE,SHIELD TOP
104	779WPA0001	HOLDER,LED	145	756WPA0039	HOLDER,DOOR(R)
105	85OP700031	HOLDER,LED	146	756WPA0040	HOLDER,DOOR(L)
106	761WSA0029	ANGLE,CRT	147	719WPA0008	PLATE,COVER-SHIELD
107	-----	CABINET HOLDER	148	752WSAA014	IF,SHIELD CASE
108	712WPJ0567	FLAP	149	769WSF0001	METAL SPACER
	800WF00028	CUSHION 10x15xT1	150	800WR00021	SHEET,CRT SUPPORT(A)
109	743WKA0032	SPRING,FLAP	151	713WPAA010	GUIDE,REMOCON
110	711WPD0516	DOOR	152	752WSA0080	PLATE,SHIELD BOTTOM
111	735WPA0258	BUTTON,FRAME	153	753WSA0086	PLATE,BOTTOM-EARTH
112	711WPD0517	PLATE,FRONT	154	753WUA0039	SPRING,EARTH M-PCB
113	741WUA0001	SPRING,EARTH	155	709WPA0019	HOLDER,CABI SEIZE
114	761WPA0126	HOLDER,DECK #2	156	7220001053	SHEET,PTB
115	7230006204	SHEET,LED	201	8141J50D04	SCREW,TAP TITE(P) GW22 5x40
116	769WSA0002	WASHER 9.1x22xT1	202	8117540B04	SCREW,TAPPING(B0) TRUSS 4x20
117	800WPA0002	SPACER,FBT	203	8117540A64	SCREW,TAPPING(B0) TRUSS 4x16
118	761WPA0027	HOLDER,PCB	204	8117140A24	SCREW,TAPPING(B0) PAN 4x12
119	761WPA0111	HOLDER,TV PCB	205	8117340A24	SCREW,TAPPING(B0) FLAT 4x12
120	762WSA0032	ANGLE,DECK BACK	206	8110630A24	SCREW,TAP TITE(P) BRAZIER 3x12
121	-----	HEAT SINK	207	8117D30A04	SCREW,TAPPING(B0) WH8 BRAZIER 3x10
122	-----	HEAT SINK	208	810A130604	SCREW/WASHER(A) M3x6
123	-----	HEAT SINK	209	8110230A02	SCREW,TAP TITE(P) BIND 3x10
124	800WR00022	SHEET,CRT SUPPORT(A)	210	8110630804	SCREW,TAP TITE(P) BRAZIER 3x8
125	761WPA0119	HOLDER,CRT WIRE	211	8109630802	SCREW,TAP TITE(B) BRAZIER 3x8
126	735WPA0305	BUTTON,POWER	212	810A130804	SCREW/WASHER(A) M3x8
127	-----	COATING CLIP	213	8110230604	SCREW,TAP TITE(P) BIND 3x6
128	759WPA0006	HOLDER,ANODE WIRE	214	8900001DTP	SCREW,LAMI TITE(A) PAN 3x6
129	702WPA0444	CABINET,BACK	215	8107230804	SCREW,TAP TITE(S) BIND 3x8
130	7225030008	SHEET,RATING	216	8107126604	SCREW,TAP TITE(S) PAN 2.6x6
131	756WPA0036	HOLDER,FLAP	217	8107126805	SCREW,TAP TITE(S) PAN 2.6x8
132	754WPAA004	COVER,LED (R)	218	8117330A04	SCREW,TAPPING(B0) FLAT 3x10
133	754WPAA003	COVER,LED(L)	—	JB5U0300	POLYBAG
134	85OA900201	FRONT LOADING UNIT 9	—	J5124801	INSTRUCTION BOOK
135	7230006555	SHEET,OPERATION	—	J5124802	GUARANTEE CARD
136	753WSA0095	SHIELD,CASE HEAD AMP	—	J5124807	QUICK SET UP SHEET
137	753WSAA006	SHIELD,COVER HEAD AMP	—	791WHA0024	LAMIFILM BAG
138	753WSA0058	PLATE,EARTH SYSCON	—	792WHA0173	PACKAGE,TOP
139	771WPA0215	PLATE,JACK	—	792WHA0174	PACKAGE,BOTTOM
140	85OP000441	SPACER,P.C.B.	—	793WCD1105	GIFT BOX
141	8995034000	CORD CLIP UL CO.			

CHASSIS EXPLODED VIEW (TOP VIEW)



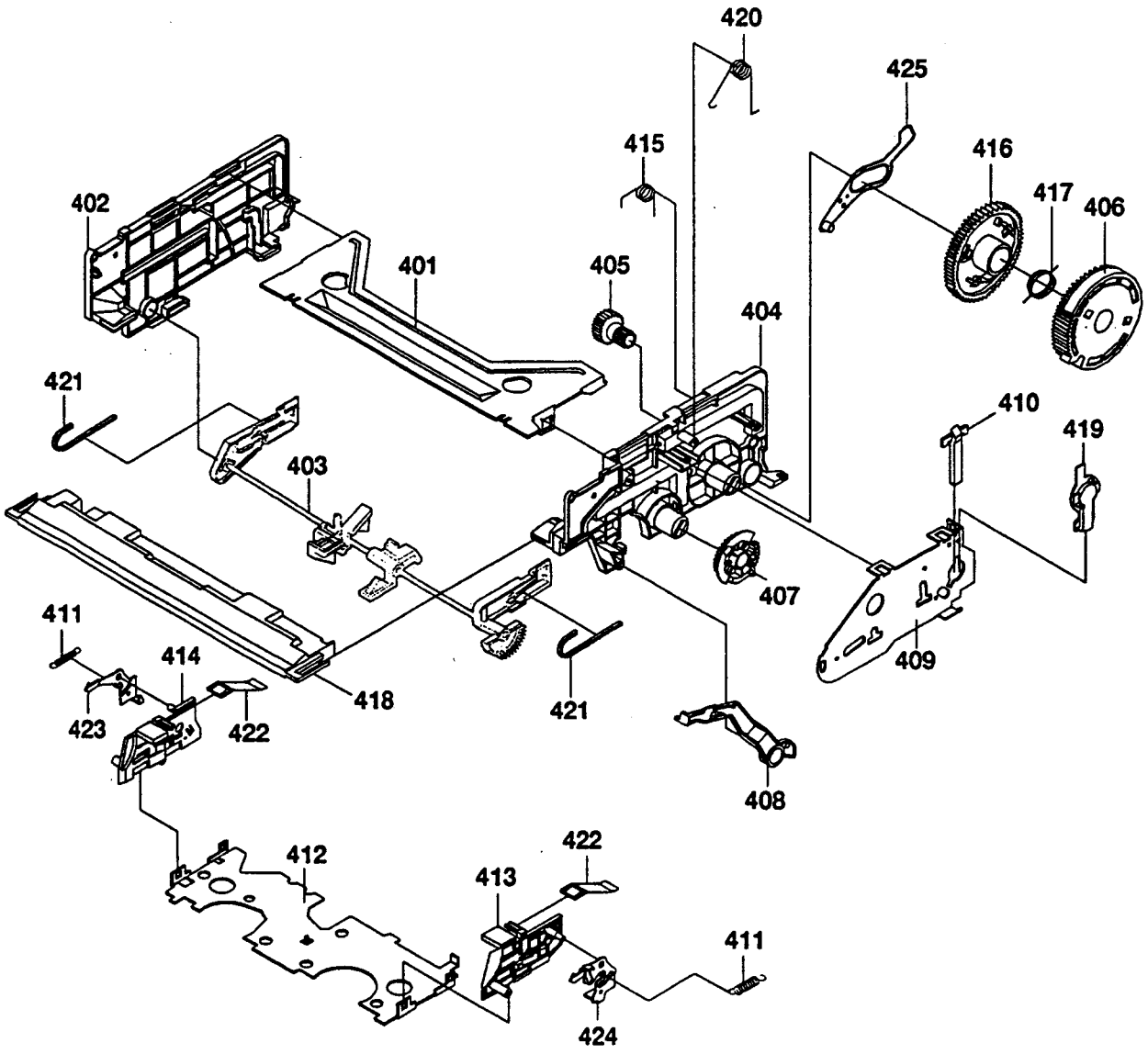
4-3400

CHASSIS EXPLODED VIEW (BOTTOM VIEW)



4-3401

FRONT LOADING UNIT 9 EXPLODED VIEW



4-3685

CHASSIS/FRONT LOADING UNIT 9 REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	
# 301	85OP600471	BRACKET,BRAKE	401	85OP900669	BRACKET,TOP	
302	85OP400358	ADJUST,TENSION	402	85OP900607	BRACKET,SIDE L	
303	85OA400122	TENSION BAND ASS'Y	403	85OA900171	LINK ASSY 2	
304	85OA400124	TENSION ARM ASS'Y	404	85OP900615	BRACKET,SIDE R	
305	85OA400123	TENSION LEVER 2 ASS'Y	405	85OP900601	GEAR,JOINT	
306	85OA600155	MAIN BRAKE S ASS'Y	406	85OP900602	GEAR,CAM	
# 307	85OA600156	MAIN BRAKE T ASS'Y	407	85OP900609	GEAR,LINK R	
# 308	85OP800252	SPRING,MAIN BRAKE	408	85OP900672	LEVER,FLAP 2	
309	85OP900564	REFLECTOR,EOT	409	85OP900616	BRACKET,SIDE R2	
310	85OP400434	REFLECTOR,LED 2	410	85OP900621	REFLECTOR,BOT	
311	85OP800315	SPRING,AC HEAD 2	411	85OP800296	SPRING,LOCKER	
312	85OP500060	BASE,AC HEAD	412	85OP900611	CASS,HOLDER	
313	85OP000394	POST,CASS GUIDE L	413	85OP900613	CASS,SIDE R	
314	85OP800245	SPRING,AZIMUTH 2	414	85OP900668	CASS,SIDE L	
# 315	85OA500013	AHC ASS'Y	415	85OP800298	SPRING,BRACKET R	
316	85OA400102	GUIDE ROLLER ASS'Y	416	85OP900608	GEAR,CLUTCH	
317	85OA400159	BASE,S INCLINED 2 ASS'Y	417	85OP800297	SPRING,CLUTCH	
318	85OA400160	BASE,T INCLINED 2 ASS'Y	418	85OP900619	TAPE GUIDE PIECE	
319	85OP400330	CATCHER,S	419	85OP900620	COVER,SENSOR BOT	
320	85OP400332	CATCHER,T	420	85OP800290	SPRING,EARTH	
# 321	85OP400430	CAM,PINCH ROLLER (PB)	421	85OP800294	SPRING,LINK	
[illegible]2	85OP600487	BELT,LOADING	422	85OP800299	SPRING,PACK	
#[illegible]23	85OA400117	PINCH ROLLER BLOCK	423	85OP900605	LOCKER,L	
324	85OP900541	CASS,OPENER	424	85OP900606	LOCKER,R	
325	85OP800264	SPRING,P5	425	85OP900610	LEVER,BOT	
# 326	85OA400168	P5 ARM ASS'Y (PB)				
327	85OP400342	CAM,GEAR	501	8110217401	SCREW,TAP TITE(P) BIND	1.7x4.0
328	8146230A14	JOINT SCREW BIND M3x11	502	8109226A64	SCREW,TAP TITE(B) BIND	2.6x16
# 329	85OP400450	CAM,P5	503	8107226804	SCREW,TAP TITE(S) BIND	2.6x8
			504	8107226604	SCREW,TAP TITE(S) BIND	2.6x6
330	85OP400356	SPRING,TENSION ARM 2	505	8107123604	SCREW,TAP TITE(S) PAN	2.3x6
# 331	85OP400357	SPRING,TENSION ARM 1	506	8109126804	SCREW,TAP TITE(B)PAN	2.6x8
332	85OP200216	REEL S	507	82P166005N	POLYSLIDER WASHER(CUT)	1.6x6.0xT0.5
333	85OP200217	REEL T	508	82Q3154B3N	POLYSLIDER WASHER	3.1x5.4xT0.13
# 334	85OP400402	CATCHER,P5 2	509	810A130604	SCREW/WASHER(A)	M3x6
335	85OP600465	SUB BRAKE,S				
336	85OP800253	SPRING,S-S BRAKE	510	810B126604	SCREW/WASHER(B)	M2.6x6.0
337	85OP200247	ARM,JOINT	511	8102130304	SCREW,PAN	M3.0x3.0
338	85OP800262	SPRING,JOINT ARM	512	8102126A04	SCREW,PAN	M2.6x10
339	85OA600157	SUB BRAKE,T ASS'Y	513	810A123504	SEMS A	M2.3x5.0
			514	85OPAA0197	SCREW,MOTOR	M3x5
340	85OP800254	SPRING,T-S BRAKE	515	82P266005N	POLYSLIDER WASHER(CUT)	2.6x6.0xT0.5
341	85OP800255	SPRING,CAP BRAKE	516	82Q264713N	POLYSLIDER WASHER	2.6x4.7xT0.13
342	85OP600485	PLATE,BOTTOM	517	82P26A005N	POLYSLIDER WASHER(CUT)	2.6x10xT0.5
# 343	85OA600176	ROD,MAIN ASS'Y	518	8149117604	SCREW,TAP-TITE(P) CAMERA	1.7x6
344	85OP400341	GEAR,MIDDLE				
[illegible]15	85OP600535	CAM,MAIN	CD1001	068722058A	CORD EIS CONNECTOR	8722058A
[illegible]46	85OP600468	LEVER,MAIN BRAKE	CD2001	122W060803	CORD JUMPER	2W060803
# 347	85OA600159	WORM ASS'Y	CD5001	122L051501	CORD JUMPER	2L051501
348	85OP600483	BRACKET,WORM F				
349	85OP600474	LEVER,RATCHET	H5001	1523D91032	HEAD (AUDIO CONTROL)	HVMXA1031A
			H5002	1543D02010	HEAD,FULL ERASE	HVFHF0059A
350	85OP600484	BRACKET,WORM R				
351	85OP300151	LEVER,LOADING	M101	1596P48001	MOTOR,LOADING	MXN-13FB09C
352	85OA600174	CAPSTAN BRAKE ASS'Y (M.J)	M2001	1594J98004	CAPSTAN DD UNIT	SP39BD
353	85OP300152	GEAR,LOADING S	M2003	1589V11004	MICRO MOTOR	EP148A
354	85OP300153	GEAR,LOADING T				
355	85OA300053	LOADING ARM S ASS'Y	# SW101	0520244003	MODE SWITCH	SRZZ0B064A
356	85OA300054	LOADING ARM T ASS'Y				
357	85OP800263	SPRING,LOADING GEAR	⚠ UN4001	A4B406B500	CYLINDER UNIT ASS'Y	A4B406B500
# 358	85OA000222	MAIN CHASSIS ASS'Y				
359	85OP200213	CENTER,PULLEY				
360	85OP600486	PULLEY,LDM 5				
361	85OP800261	SPRING,C-PULLEY				
# 362	85OA200065	ARM IDLER ASS'Y				
363	85OP800270	SPRING,LEVER TENSION				
# 364	85OA200064	CLUTCH GEAR T ASS'Y				
# 365	85OA200063	CLUTCH GEAR S ASS'Y				
366	85OP400360	LEVER,TENSION				
# 367	85OP400359	HOLDER,TENSION				
368	85OP800256	SPRING,MAIN ROD				
369	85OP200215	BELT,CAPSTAN				
370	85OP300169	SLIDER,LOADING 2				

Note: Some parts labeled # are not compatible, but they are very similar before servicing, be sure to check the parts in the INFORMATION FOR USING THE DECK PARTS (OVD-5) for the repair. Because if you use wrong parts, the deck or tape will be damaged.

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
		RESISTORS	
⚠ R445	R3U20B152J	R,METAL OXIDE	1.5K OHM 3W
⚠ R446	R3U20B152J	R,METAL OXIDE	1.5K OHM 3W
⚠ R447	R61582680J	R,FUSE	68 OHM 1/2W
⚠ R449	R5Y2CE8R2J	R,CEMENT	8.2 OHM 7W
⚠ R450	R615811R8J	R,FUSE	1.8 OHM 1W
⚠ R452	R635811R8J	R,FUSE	1.8 OHM 1W
⚠ R501	R5Y2CE2R2J	R,CEMENT	2.2 OHM 7W
⚠ R505	R3U28B333J	R,METAL OXIDE	33K OHM 3W
⚠ R508	R3328D473J	R,METAL OXIDE	47K OHM 5W
R512	R3U181153J	R,METAL OXIDE	15K OHM 1W
⚠ R513	R3U28A150J	R,METAL OXIDE	15 OHM 2W
⚠ R517	R614812R2J	R,FUSE	2.2 OHM 1W
⚠ R531	R3U18AR56J	R,METAL OXIDE	0.56 OHM 2W
⚠ R538	R011K2155J	RC	1.5M OHM 1/2W
⚠ R598	R615U4470J	R,FUSE	47 OHM 1/4W
⚠ R802	R3U10A123J	R,METAL OXIDE	12K OHM 2W
⚠ R805	R3U10A123J	R,METAL OXIDE	12K OHM 2W
⚠ R810	R3U10A123J	R,METAL OXIDE	12K OHM 2W
⚠ R1042	R615812R7J	R,FUSE	2.7 OHM 1W
		CAPACITORS	
C101	E51XWP104Z	CE	0.1 F 5.5V
C407	E02LF3222M	CE	2200 UF 25V
C421	E53ZF4102M	CE	1000 UF 35V VZ
C423	P441F2474J	CMPP	0.47 UF 200V DHS or
	P4A1F2474J	CMPP	0.47 UF 200V or
	P411F2474J	CMPP	0.47 UF 200V
C424	P4N2F9682H	CMPP	0.0068UF 1.6KV DKR
C427	C034BN7U2K	CC	680 PF 2KV BN
C430	C01BBP713K	CC	0.001 UF 2KV BP
C431	E0E7FD220M	CE	22 UF 250V
C434	P3N1F1562J	CPP	0.0056UF 100V
C450	C01BBP7B2K	CC	120 PF 2KV BP
⚠ C502	C13DB0713K	CC	0.001 UF 2KV B
⚠ C503	C13DB0713K	CC	0.001 UF 2KV B
⚠ C505	P2222B224K	CMP	0.22 UF 250V AC MMCA or
	P2162B224M	CMP	0.22UF 250V AC
⚠ C506	P2222B104K	CMP	0.1 UF 250V AC MMCA or
	P2162B104K	CMP	0.1 UF 250V AC or
	P2470A104M	CMP	0.1UF 125V AC or
	P2162B104M	CMP	0.1 UF 250V AC
C507	E52C0H101M	CE	100 UF 400V
⚠ C508	CB3930MQ2K	CC	470 PF 250V
C512	C034BN7H3K	CC	0.0022UF 2KV BN
C513	C01BBP7L2K	CC	330 PF 2KV BP
⚠ C515	E0E7TB010M	CE	1 UF 160V
C517	C034BN7H3K	CC	0.0022UF 2KV BN
C521	E027FB221M	CE	220 UF 160V
⚠ C529	CB3930M13M	CC	0.001 UF 250V
⚠ C530	CB3930M13M	CC	0.001 UF 250V
⚠ C531	E0ELF2222M	CE	2200 UF 16V
C533	CB3930M13M	CC	0.001 UF 250V
⚠ C546	CB3930M13M	CC	0.001 UF 250V
C555	E0ELF3222M	CE	2200 UF 25V
C556	E53ZF2222M	CE	2200 UF 16V VZ
C892	CHG0SL4H1J	CC	22 PF 50V SL
C1039	CHG0F0415Z	CC	0.1 UF 50V F
C1040	CHG0F0415Z	CC	0.1 UF 50V F
C4107	E0E300221M	CE	220 UF 6.3V
		DIODES	
D102	DD3RLFB01L	DIODE,SILICON	LFB-01L
D117	D9JT05R61B	DIODE,ZENER	UZ-5.6BCB-TA
D119	D28TQS04N0	DIODE,SCHOTTKY	11EQS04N-TA1B2
D120	D1VT001330	DIODE,SILICON	1SS133T-77
D121	D1VT001330	DIODE,SILICON	1SS133T-77
D131	DD3RLFB01L	DIODE,SILICON	LFB-01L
D351	D1VT001330	DIODE,SILICON	1SS133T-77
D352	D1VT001330	DIODE,SILICON	1SS133T-77
D353	DD3RLFB01L	DIODE,SILICON	LFB-01L
D401	D28T011E10	DIODE,SILICON	11E1TA1B2
D402	D9JT09R11B	DIODE,ZENER	UZ-9.1BCB-TA or
	D92T09R1B2	DIODE,ZENER	RD9.1EB2 TA11R or
	D93T09R10Y	DIODE,ZENER	GZA9.1 Y BT or
	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
D405	D1VT001330	DIODE,SILICON	1SS133T-77
⚠ D411	D28T10ELS6	DIODE,RECTIFIER	10ELS6TA1B2
⚠ D413	D28T10ELS6	DIODE,RECTIFIER	10ELS6TA1B2
D422	D1VT001330	DIODE,SILICON	1SS133T-77

REF. NO.	PART NO.	DESCRIPTION	
		DIODES	
⚠ D501	D2BTRM11C0	DIODE,RECTIFIER	RM11C
⚠ D502	D2BTRM11C0	DIODE,RECTIFIER	RM11C
⚠ D503	D2BTRM11C0	DIODE,RECTIFIER	RM11C
⚠ D504	D2BTRM11C0	DIODE,RECTIFIER	RM11C
D505	D28T011E20	DIODE,SILICON	11E2TA1B2
D506	D25T1R5NU0	DIODE,SILICON	1R5NU41
D507	D28T011E20	DIODE,SILICON	11E2TA1B2
⚠ D508	D28TEQS040	DIODE,SCHOTTKY	11EQS04TA1B2
⚠ D509	D28T10ELS6	DIODE,RECTIFIER	10ELS6TA1B2
⚠ D510	D28I15DF60	DIODE,SILICON	15DF6-FC
⚠ D511	D1VT001330	DIODE,SILICON	1SS133T-77
D512	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
D516	D1VT001330	DIODE,SILICON	1SS133T-77
D517	D1VT001330	DIODE,SILICON	1SS133T-77
D518	D1VT001330	DIODE,SILICON	1SS133T-77
D519	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
D520	D9JT02701B	DIODE,ZENER	UZ-27BCB-TA
D522	D9JT01201B	DIODE,ZENER	UZ-12BCB-TA
D525	D1VT001330	DIODE,SILICON	1SS133T-77
D528	D9JT05R61A	DIODE,ZENER	UZ-5.6BCA-TA
D529	D1VT001330	DIODE,SILICON	1SS133T-77
D531	D1VT001330	DIODE,SILICON	1SS133T-77
D534	D1VT001330	DIODE,SILICON	1SS133T-77
D535	D1VT002900	DIODE,SILICON	1SS290T-77
D536	D1VT001330	DIODE,SILICON	1SS133T-77
D537	D97U08R21B	DIODE,ZENER	MTZJ8.2B T-77
D602	D1VT001330	DIODE,SILICON	1SS133T-77
D604	D9JT05R11B	DIODE,ZENER	UZ-5.1BCB-TA
D606	D1VT001330	DIODE,SILICON	1SS133T-77
D607	D9JT05R11B	DIODE,ZENER	UZ-5.1BCB-TA
D608	DD3RLFB01L	DIODE,SILICON	LFB-01L
D609	DD3RLFB01L	DIODE,SILICON	LFB-01L
D610	DD3RLFB01L	DIODE,SILICON	LFB-01L
D611	DD3RLFB01L	DIODE,SILICON	LFB-01L
D612	D97U01301B	DIODE,ZENER	MTZJ13B T-77
D613	D28TQS04N0	DIODE,SCHOTTKY	11EQS04N-TA1B2
D614	D9JT01001B	DIODE,ZENER	UZ-10BCB-TA
D701	0021A20210	LED	L-53IT
D702	0021A20210	LED	L-53IT
D703	D1VT001330	DIODE,SILICON	1SS133T-77
D705	D1VT001330	DIODE,SILICON	1SS133T-77
D706	D28X011E10	DIODE,SILICON	11E1TA2B5
D707	D28TEQS040	DIODE,SCHOTTKY	11EQS04TA1B2
D708	D97U06R81C	DIODE,ZENER	MTZJ6.8C T-77 or
	D94TA6R8J3	DIODE,ZENER	HZS6R8JB3-TE
D709	0021A20210	LED	L-53IT
D801	D1VT001330	DIODE,SILICON	1SS133T-77
D802	D1VT001330	DIODE,SILICON	1SS133T-77
D851	D1VT001320	DIODE,SILICON	1SS132T-77
D852	DD3RLFB01L	DIODE,SILICON	LFB-01L
D853	D53T002510	DIODE,VARIABLE CAPACITOR	SVC251-SPA-AC
D1001	0001300030	LED	SLR-938C-4-AB
D1003	D1VT001330	DIODE,SILICON	1SS133T-77
D1004	D1VT001330	DIODE,SILICON	1SS133T-77
D1005	D28T011ES1	DIODE,SILICON	11ES1TA1
D1006	D1VT001330	DIODE,SILICON	1SS133T-77
D1007	D28TQS04N0	DIODE,SCHOTTKY	11EQS04N-TA1B2
D1008	D1VT001330	DIODE,SILICON	1SS133T-77
D1009	D1VT001330	DIODE,SILICON	1SS133T-77
D1010	D28T11E1N1	DIODE,SILICON	11E1N-TA1B2
D1012	D97U06R21C	DIODE,ZENER	MTZJ6.2C T-77
D1013	D28X011E10	DIODE,SILICON	11E1TA2B5
D1019	D28TQS04N0	DIODE,SCHOTTKY	11EQS04N-TA1B2
D4002	DD3RLFB01L	DIODE,SILICON	LFB-01L
D4003	D1VT001330	DIODE,SILICON	1SS133T-77
D4501	D97U01301C	DIODE,ZENER	MTZJ13C T-77 or
	D94TA130J2	DIODE,ZENER	HZS13JB2-TE
D4502	D97U01301C	DIODE,ZENER	MTZJ13C T-77 or
	D94TA130J2	DIODE,ZENER	HZS13JB2-TE
D4503	DD3RLFB01L	DIODE,SILICON	LFB-01L
D4505	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D4506	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D4507	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D4508	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D5001	D1VT001330	DIODE,SILICON	1SS133T-77
D6007	D97U05R11C	DIODE,ZENER	MTZJ5.1C T-77
D6402	D97U06R81C	DIODE,ZENER	MTZJ6.8C T-77 or

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
DIODES			
D6402	D94TA6R8J3	DIODE,ZENER	HZS6R8JB3-TE
ICS			
IC101	I55D06044C	IC	OEC6044C
IC102	IC3D0C04F0	IC	ST24C04FB6
IC103	I9UJ0T600H	IC	PST600H
⚠ IC401	I05SD84030	IC	TA8403K
⚠ IC501	I0ED046050	IC	TDA4605-3
⚠ IC502	I0Q0978050	IC	NJM7805FD
⚠ IC506	0002500450	PHOTO COUPLER	TLP621(GR)
IC601	I05DE1229C	IC	TB1229CN
IC851	I5CD001950	IC	CF70195
IC852	I5CD023060	IC	CF72306
IC853	I01S0862K0	IC	AN5862K
IC1001	I57F59032A	IC	OEC9032A
⚠ IC1002	I07S09029A	IC	OEC9029A
IC1003	I0Q0978090	IC	NJM7809FA
IC4001	I05D31232N	IC	TA1232N
IC4002	I05D08850A	IC	TL8850AP
IC4101	I03FG7411M	IC	LA7411M-TP-T
IC5001	I03D772890	IC	LA7289
IC6001	I06DA52313	IC	M52313SP
IC6301	I03F071050	IC	LA7105M-TP-T1
IC6302	I03D06358T	IC	LA6358T
IC6303	I0MI90574J	IC	UPC574J-T
TRANSISTORS			
Q102	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q103	TNYJB05001	COMPOUMD TRANSISTOR	DTC114EKAT146
Q105	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q106	TNYJJ05001	COMPOUND TRANSISTOR	DTC114TKAT146
Q107	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q110	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q111	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q351	TC5T021204	TRANSISTOR,SILICON	2SC2120Y(TPE2)
Q352	TA5T009504	TRANSISTOR,SILICON	2SA950Y(TPE2)
Q353	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
Q354	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q356	TNYJJ05001	COMPOUND TRANSISTOR	DTC114TKAT146
Q403	TNYTB03001	COMPOUND TRANSISTOR	DTC114ESTP
Q404	TNYTJ03001	COMPOUND TRANSISTOR	DTC114TSTP
Q405	TC3T022710	TRANSISTOR,SILICON	2SC2271(D,E)-AE
⚠ Q406	TDUQ020890	TRANSISTOR,SILICON	2SD2089
Q407	TNYTJ03001	COMPOUND TRANSISTOR	DTC114TSTP
Q408	TNYTJ03001	COMPOUND TRANSISTOR	DTC114TSTP
⚠ Q500	T41FK23970	TRANSISTOR,FIELD EFFECT	2SK2397-01MR
Q501	TC3T029090	TRANSISTOR,SILICON	2SC2909(S,T)-AA
⚠ Q502	TA3T1371A0	TRANSISTOR,SILICON	2SA1371(D,E)-AE
⚠ Q503	TC30041600	TRANSISTOR,SILICON	2SC4160-ORI
Q504	TCLT02001L	TRANSISTOR,SILICON	2SC2001(C)-T_L
Q505	TA3T016240	TRANSISTOR,SILICON	2SA1624-AA
Q507	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
Q509	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
Q510	TD70D23960	TRANSISTOR,SILICON	2SD2396(J,K)
⚠ Q511	TBWT009260	TRANSISTOR,SILICON	2SB926(S,T)-AA
Q512	TNYTB03001	COMPOUND TRANSISTOR	DTC114ESTP
Q513	TNYTB03001	COMPOUND TRANSISTOR	DTC114ESTP
Q514	TNYTB03001	COMPOUND TRANSISTOR	DTC114ESTP
Q515	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
⚠ Q516	TD70D23960	TRANSISTOR,SILICON	2SD2396(J,K)
Q517	TPYTJ03001	COMPOUND TRANSISTOR	DTA114TSTP
Q518	TNYTB03001	COMPOUND TRANSISTOR	DTC114ESTP
Q602	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q605	TNYJB05001	COMPOUMD TRANSISTOR	DTC114EKAT146
Q608	TNYTB05001	COMPOUMD TRANSISTOR	DTC114EKT147
Q610	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q611	TNYJB05001	COMPOUMD TRANSISTOR	DTC114EKAT146
Q612	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q703	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q801	TA5T010154	TRANSISTOR,SILICON	2SA1015Y(TPE2)
⚠ Q804	TCKT1473A0	TRANSISTOR,SILICON	2SC1473A-TA-(RQ)
⚠ Q805	TCKT1473A0	TRANSISTOR,SILICON	2SC1473A-TA-(RQ)
⚠ Q806	TCKT1473A0	TRANSISTOR,SILICON	2SC1473A-TA-(RQ)
Q851	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q853	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q859	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q860	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q861	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q862	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S

REF. NO.	PART NO.	DESCRIPTION	
TRANSISTORS			
Q1002	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q1010	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q1017	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q1018	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q1028	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q1029	TBWT009260	TRANSISTOR,SILICON	2SB926(S,T)-AA
Q1030	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q1031	TB3T006980	TRANSISTOR,SILICON	2SB698-AA
Q1051	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q1052	TCYT2872S0	TRANSISTOR,SILICON	2SC2872S
Q1053	0002G00490	PHOTO COUPLER	GP1S94
Q1054	0002G00490	PHOTO COUPLER	GP1S94
Q1055	0000700320	TRANSISTOR,PHOTO	RPT-38PB113
Q1056	0000700320	TRANSISTOR,PHOTO	RPT-38PB113
Q4001	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4004	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4005	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4006	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4007	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4009	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4010	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4011	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4012	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4013	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4015	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4016	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4017	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4018	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q4019	TNYJM05001	COMPOUND TRANSISTOR	DTC143TKAT146
Q4020	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146
Q4021	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146
Q4023	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q4024	TNYJM05001	COMPOUND TRANSISTOR	DTC143TKAT146
Q4101	T8YA2412K0	TRANSISTOR,SILICON	2SC2412KT147(R,S)
Q4501	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4502	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4505	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4507	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4509	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q5004	TCKT013170	TRANSISTOR,SILICON	2SC1317(Q,R,S)-T
Q6002	T6YA1037K0	TRANSISTOR,SILICON	2SA1037KT147(R,S)
Q6003	TC3T030000	TRANSISTOR,SILICON	2SC3000-AA
Q6101	TNYJA05001	COMPOUND TRANSISTOR	DTC143EKAT146
Q6104	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q6304	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q6502	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q6503	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q6504	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
COILS &TRANSFORMERS			
L101	021LA6330K	COIL	33 UH
L401	021679472K	COIL	4.7 MH
L402	022G000008	COIL,LINEARITY	LOL002
L403	021U6D680K	COIL	68 UH
⚠ L501	029X000052	COIL,LINE FILTER	SS28V-08350
⚠ L502	029K000001	COIL,LINE FILTER	RB-20871
⚠ L503	028Q140018	COIL,DEGAUSS	8Q140018
L504	021U6D680K	COIL	68 UH
L604	021LA6100K	COIL	10 UH
L605	021LA6100K	COIL	10 UH
L810	02A6A8A0A1	CORE,FERRITE	HF57T18.5*10*10
L820	02A6A8A0A1	CORE,FERRITE	HF57T18.5*10*10
L850	02A6A8A0A1	CORE,FERRITE	HF57T18.5*10*10
L851	021LA6100K	COIL	10 UH
L852	021LA6100K	COIL	10 UH
L853	021LA61R5J	COIL	1.5 UH
L880	021L96680K	COIL	68 UH
L4001	02167D330K	COIL	33 UH
L4002	021673101K	COIL	100 UH
L4004	021673101K	COIL	100 UH
L4005	021LA6181K	COIL	180 UH
L4006	021LA6470K	COIL	47 UH
L4008	021LA6560K	COIL	56 UH
L4012	021LA6390K	COIL	39 UH
L4013	021LA6330K	COIL	33 UH
L4015	02167D101K	COIL	100 UH
L4101	021663101K	COIL	100 UH
L4501	0216S1101K	COIL	100 UH

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
		COILS &TRANSFORMERS	
L4503	021LA6100K	COIL	10 UH
L4504	021LA6100K	COIL	10 UH
L5001	02167D101K	COIL	100 UH
L5005	021673102K	COIL	1 MH
L6002	021673101K	COIL	100 UH
L6004	021LA6150K	COIL	15 UH
L6005	021LA61R2K	COIL	1.2 UH
L6007	021LA66R8K	COIL	6.8 UH
L6009	021LA6120K	COIL	12 UH
L6010	021LA6330K	COIL	33 UH
L6011	033600038R	COIL,VIDEO IFT	3600038
L6012	033600037R	COIL,VIDEO IFT	3600037
L6103	02167D101K	COIL	100 UH
L6105	021673101K	COIL	100 UH
T401	03305Y0018	TRANS.,HORIZONTAL DRIVE	305Y001
⚠ T501	048135022W	TRANSFORMER,SWITCHING	8135022W
T5001	033626010R	COIL,BIAS OSC	3626010
		JACKS	
J352	060C121009	JACK,RCA 3.5	TC38-066-P1
⚠ J801	066X120014	SOCKET,CRT	HPS3200-010501
J4501	063G100037	SOCKET,21PIN	035_0_9985_05
		SWITCHES	
⚠ SW501	0530205002	SWITCH	SDDFC3076A
SW701	0504101T32	SWITCH,TACT	EVQPB105K
SW702	0504101T32	SWITCH,TACT	EVQPB105K
SW703	0504101T32	SWITCH,TACT	EVQPB105K
SW704	0504101T32	SWITCH,TACT	EVQPB105K
SW705	0504101T32	SWITCH,TACT	EVQPB105K
SW706	0504101T32	SWITCH,TACT	EVQPB105K
SW707	0504101T32	SWITCH,TACT	EVQPB105K
SW708	0504101T32	SWITCH,TACT	EVQPB105K
SW1010	0501A02002	PUSH SWITCH	MPU20250MLB0
		VARIABLE RESISTORS	
VR502	V1263L2BTC	VOLUME,SEMI FIXED	RH063MCN2R07A
		P.C.BOARD ASSEMBLES	
PCB010	A51248A01A	PCB ASS'Y	VM7127C
PCB070	A51248A07A	PCB ASS'Y	TM7379B
PCB110	A51248A11A	PCB ASS'Y	TC7243B
PCB150	A51248A15A	PCB ASS'Y	TE7929B
PCB330	A51229G33A	PCB ASS'Y	VE6773A
PCB350	A51248A35A	PCB ASS'Y	VE4666B
		MISCELLANEOUS	
B301	024AC14014	CHIP SOLID INDUCTOR	BLM31B601SPT
B353	0246T03584	CORE,BEADS	BF40DTA-3.5X6X1
B501	024AT03655	CORE,BEADS	BL01RN1-A63T6
B502	024AT03655	CORE,BEADS	BL01RN1-A63T6
B503	024AT03655	CORE,BEADS	BL01RN1-A63T6
B504	024AT03655	CORE,BEADS	BL01RN1-A63T6
B508	024AT03655	CORE,BEADS	BL01RN1-A63T6
B509	024AT03655	CORE,BEADS	BL01RN1-A63T6
B701	024DT03581	CORE,BEADS	LFP3A-M3R2TA
B851	024DT03581	CORE,BEADS	LFP3A-M3R2TA
B4501	024AC14015	CORE,BEADS (CHIP)	BLM31A601SPT
B4502	024AC14015	CORE,BEADS (CHIP)	BLM31A601SPT
B6101	024AC14015	CORE,BEADS (CHIP)	BLM31A601SPT
B6102	024AC14015	CORE,BEADS (CHIP)	BLM31A601SPT
B6105	024AC14015	CORE,BEADS (CHIP)	BLM31A601SPT
B6106	024AC14015	CORE,BEADS (CHIP)	BLM31A601SPT
BT001	1412004008	BATTERY,MANGAN	R03(AB)E_20_T
BT002	1412004008	BATTERY,MANGAN	R03(AB)E_20_T
CD005	068701410A	CORD,CONNECTOR	8701410A
CD007	068101410A	CORD,CONNECTOR	8101410A
CD301	068M12384A	CORD,CONNECTOR	8M12384A
⚠ CD501	120T650804	CORD,AC	0T650804
CD801	127C140016	BRAIDED WIRE	TD-B0005
CD803	122E042302	CORD,JUMPER	2E042302
CD810	068128092A	CORD,CONNECTOR	8128092A
CD820	06CH2F009A	CORD,CONNECTOR	CH2F009A
CD850	06CH25080A	CORD,CONNECTOR	CH25080A
CP005	069W01001A	CONNECTOR PCB SIDE	003P-2100
CP301	0694120010	CONNECTOR PCB SIDE	2-171825-2
CP401	069W340018	CONNECTOR PCB SIDE	TS-80P-04-V1
CP501	0694430100	CORD,UX CONNECTOR	2-173270-3
CP502	069W420029	CONNECTOR PCB SIDE	TV-50P-02-A1
CP801	069W320018	CONNECTOR PCB SIDE	TS-80P-02-V1
CP802	069E290129	CONNECTOR PCB SIDE	8283_0912_00_000
CP807	069W010020	CONNECTOR PCB SIDE	005P-1100

REF. NO.	PART NO.	DESCRIPTION	
		MISCELLANEOUS	
CP810	069E280124	CONNECTOR PCB SIDE	8283_0812_00_003
CP820	069E2F0129	CONNECTOR PCB SIDE	8283_1512_00_000
CP850	069E250129	CONNECTOR PCB SIDE	8283_0512_00_000
CP851	069Q180179	CONNECTOR PCB SIDE	CPB1808-0101
CP852	069H170209	CONNECTOR PCB SIDE	ILG7P-S3L-PCB-S
CP853	069H140209	CONNECTOR PCB SIDE	ILG4P-S3L-PCB-S
CD4102	069E220129	CONNECTOR PCB SIDE	8283_0212_00_000
CD6101	068101411A	CORD,CONNECTOR	8101411A
CF6001	1012T5R503	FILTER,CERAMIC TRAP	TPS5.5MB-TF21
CF6003	1012T05R52	FILTER,CERAMIC	SFE5.5MC2-TF21
CF6004	102E238R9C	FILTER	G1875M
CF6005	1012T5R509	FILTER,CERAMIC DISCRI	CDSH5.5ME44K-TF
CF6006	1012T03101	FILTER,CERAMIC TRAP	MKT31.9MA110P-TF
CF6008	1012T04001	FILTER,CERAMIC TRAP	MKT40.4MA110P-TF
CP1001	0697150310	CONNECTOR PCB SIDE	TAS-X05X-D1
CP1002	06977K0580	CONNECTOR PCB SIDE	TMC-W20P-A1
CP4001	06977G0580	CONNECTOR PCB SIDE	TMC-W16P-A1
CP4002	068122070A	CORD,EIS CONNECTOR	8122070A
CP4101	069R740479	CONNECTOR PCB SIDE	52492-0420
CP4102	069R750499	CONNECTOR PCB SIDE	52492-0520
CP4103	06977K0570	CONNECTOR PCB SIDE	TMC-W20X-A1
CP4104	06977G0570	CONNECTOR PCB SIDE	TMC-W16X-A1
CP4105	069779M010	CONNECTOR PCB SIDE	TKC-F09X-L1
CP4106	069R760018	CONNECTOR PCB SIDE	52044-0645
CP6001	069J1C0260	CONNECTOR PCB SIDE	6035B-12Z002-T
CP6115	0694140059	CONNECTOR PCB SIDE	171826-4
CP803A	067R104019	WIRE HOLDER	51052-0400
CP803B	067R104019	WIRE HOLDER	51052-0400
CUS011	800WF00004	CUSHION-A	
CUS011	800WF00004	CUSHION-A	
⚠ F501	0808T04002	FUSE	218004
⚠ F502	0808T1R602	FUSE	21801.6
⚠ FB401	043213009F	TRANSFORMER,FLYBACK	3213009
FH501	06710T0006	HOLDER,FUSE	EYF-52BC
FH502	06710T0006	HOLDER,FUSE	EYF-52BC
FH503	06710T0006	HOLDER,FUSE	EYF-52BC
FH504	06710T0006	HOLDER,FUSE	EYF-52BC
⚠ ICP502	083PC04002	MICRO FUSE	251004
⚠ ICP504	083PC03002	MICRO FUSE	251003
⚠ ICP505	083PC01002	MICRO FUSE	251001
⚠ ICP506	083PC01002	MICRO FUSE	251001
OS701	0779014002	REMOTE RECEIVER	GP1U281Q
PF5001	0326230038	COIL,TRAP	2623003
⚠ RY501	0560Q10114	RELAY	SDT-SS-109DM
SP352	070R533001	SPEAKER	EP074001-05
TH501	D8R0F140M0	DEGAUSS ELEMENT	PTH451C262BF140M
TM101	076R0BC160	TRANSMITTER	R25-0809
⚠ TU6001	0145S11017	TUNER UHF-VHF	ENV57D06F1
⚠ V801	098Q140480	COLOR PICTURE TUBE(W/DY)	A34AGT13X19
X101	100C32R803	CRYSTAL DSVT-200	32.768KHz
X102	1001T8R004	CERAMIC OSCILLATOR	8MHz
X601	100WA01601	CRYSTAL HC-49	16.2MHz
X851	100WA01301	CRYSTAL HC-49/U-S	13875KHz
X1001	100CA8R005	CRYSTAL HC-49/U-S	8MHz
X4001	100CA4R404	CRYSTAL HC-49/U-S	4.433619MHz

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
CE..... ALUMI ELECTROLYTIC CAPACITOR
CP..... POLYESTER CAPACITOR
CPP..... POLYPROPYLENE CAPACITOR
CPL..... PLASTIC CAPACITOR
CMP..... METAL POLYESTER CAPACITOR
CMPL..... METAL PLASTIC CAPACITOR
CMPP..... METAL POLYPROPYLENE CAPACITOR

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